DETERMINANTS OF CAPITAL STRUCTURE AND ITS IMPACT ON THE PERFORMANCE OF ETHIOPIAN INSURANCE INDUSTRY

A RESEARCH PAPER IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN ACCOUNTING AND FINANCE

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POST GRADUATE PROGRAME DEPARTMENT OF ACCOUNTING AND FINANCE

COLLEGE OF BUSINESS AND ECONOMICS

JIMMA UNIVERSITY

June, 2014

Jimma, Ethiopia

Declaration

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DEPARTMENT OF ACCOUNTING AND FINANCE

SCHOOL OF GRADUATE STUDIES

MSC REGULAR PROGRAM

Determinants of Capital Structure and its Impact on the Performance of Ethiopian Insurance Industry (EII)

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ABSTRACT

An appropriate capital structure is a critical decision for any business organization to be taken by business organization for maximization of shareholders wealth and sustained growth. The mainobjectives this study wasexamining the determinants of capital structure and its impact on the performance of Ethiopian insurance industry. Thus, the major focus of this study was to investigate empirically firm specific factors such as, firm leverage, growth opportunities, size, risk, tangibility and liquidity were impacts on performance in Ethiopian insurance industry. To achieve the research objectives panel analysis was used. In this study, the researcher used only secondary data. All insurance companies were included in the sample frame if they had Ten years annual report. Document review has beenused for collecting data from 2004-2013 annual reports. The statistical tests were used includes: descriptive statistics, correlation, specific linear assumption and fixed effect regression estimation model, a relationship was established between firm specific factors and performance,measures return on asset (ROA) of the firms over a period of ten years. The results show that firm leverage, Size, tangibility and business risk were significant impact on performance of Ethiopian insurance companies. While firm growth and liquidity were not clear and statistical proved relationship are obtained from the regression analysis. The results provide strong evidence in support of the pecking order theory of capital structure which asserts that leverage was a significant determinant of firms' performance. A significant negative relationship is established between leverage and performance.

From the findings the researcher recommended that the sample of Ethiopian insurance industry use more equity than debt in financing their business activities, this because if the value of business can be enhanced with debt capital, it is dangerous for the firm. Each Ethiopian insurance industryestablishes with the aid of professional financial managers, that particular debt-equity mix that maximizes its value and minimizes its weighted average cost of capital.

Keywords: *capital structure, performance, Ethiopian insurance industry, Returns on asset.*

ACKNOWLEDGEMENT

Prays and truthful thanks to Allah who gave me the patience and the ability to accomplish this paper.

I would like to thank my main advisor, Dr.Sujatha Selvaraji, for her guidance through the year researcher spent under her supervision is greatly appreciated. This work is better for her inputs and directions regarding capital structure of insurance companies.

In addition, I extend my appreciations to Mr. Yonas Mekonnen for his comments, encouragements and guidance for the accomplishment of this research paper.

I am indebted to express my gratitude to Jimma University, specifically College of Business and Economics, for giving me the chance to conduct this research paper.

In addition, I express my gratitude to the people who have helping and support me during the study period in Jimma University. Also, special thanks are furthermore given to my colleagues in the college for all the time, feedback and discussion.

Table of content

List of Figures

List of Tables

Page

List of Acronyms

AFIC-African Insurance Corporation

AIC- Awash Insurance Corporation

Br- Business risk

EIC - Ethiopian Insurance Corporation

FEM- Fixed effect model

GR- Growth Opportunities

GIC - Global Insurance Corporation

LEV- Firm leverage

LQ – Liquidity

MM- Modigliani and Miller

NIC- National Insurance Corporation

NIC- Nile Insurance Corporation

NYIC-Nyala Insurance Corporation

NBIC- Nib insurance companies

NBE- National Bank of Ethiopia

SZ –Size

REM- Random effect model

ROA- Return on Asset

UIC- united Insurance Corporation

Chapter one

1. Introduction

The main objective of this study was to investigate the determinants of capital structure and its impact on the performance in the context of Ethiopian insurance industries. The first chapter of the research was intends to introduce the background the study, which was the knowledge researcher intend to fill gap,statement of the problem, objective of the study, hypothesis ,significance of the study and scope and limitation of the study.

1.1 Background of the study

The capital structure of a firm describes the way in which a firm raised capital needed to establish and expand its business activities. It is a mixture of various types of equity and debt capital a firm maintained resulting from the firms financing decisions. In one way or another, business activity must be financed. Without finance to support their fixed assets and working capital requirements, business could not exist.In all aspects of capital investment decision, the capital structure decision is the vital one since the profitability of an enterprise is directly affected by such decision. Therefore, proper care and attention need to be given while determining capital structure decision.

Capital structure decisions are among the most significant finance decisions companies encounter. It has been long debated whether capital structures are influential on costs of capital and firm values. The theory of capital structure and its relationship with a firm's value and performance has been a puzzling issue in corporate finance and accounting literature since the Modigliani and Miller (1958) argue that under the perfect capital market assumption that, if there is no bankrupt cost and capital markets are frictionless, if without taxes, the firm's value is independent with the structure of the capital. Debt can reduce the tax to pay, so the best capital structure of enterprise should be one hundred percent of the debt. Since then, several theories have been developed to explain the capital of a firm including the Pecking order theory, Static Trade-off theory and agency cost theory. The firm's decision about its source of capital will affect its competitiveness among its peers. Therefore, firm should use the appropriate mix of debt and equity that will maximize its profitability.

Note that: The indicator of firm performance is profitability. Therefore, the researcher used throughout the paper profitability and firmperformance interchangeably.

The lack of consensus among the theories that try to explain the capital structure of a firm has led to many empirical studies in capital structure of the firm. These studies were trying to reach a conclusion about the impact of capital structure on firm's performance.

In connection to this,financing the firm's needs, the amount of debt to be undertaken is affected by several factors.Capital structure theory, specifically the trade-off model suggests that firms with high business risks should use less debt than lower risk firms. This because the higher the risk the higher probability that the firm will face financial distress. Furthermore, firms that have tangible asset should use more debt than firms that have more intangible assets since only tangible assets can be used as collateral. Besides, when financial distress occurs, intangible assets will most likely to lose value. It also stated that firms that are paying taxes at higher rates should take more debt since its bankruptcy risks is lesser than the lower taxpayer firms Brigham et.al,(1999).

Pecking order theory that has been introduced by Myers (1977) is also relevant to deviation of capital structure. It states that firms have a preferred hierarchy for financing decisions. The highest preference is to use internal financing before resorting to any form of external fund.
The Agency cost theory lastly states that an optimal capital structure is attainable by reducing the costs resulting from the conflicting between the managers and the owners.
Jensen and Meckling (1976) argued that leverage level can be used to monitor the managers to pursue the overall firm's objectives and theirs. By doing so, cost is reduced leading to efficiency which shall eventually enhance firm performance Buferna et.al, (2005).

How an organization is financed to both the managers of the firms and providers of funds. This because if wrong mix debt and equity of finance is employed theperformance and survival of the business enterprise may be seriously affected. This study wants to contribute to the debate on the relationship between capital structure and firm performance from capital structure theory perspective. Financing decision facilitates the survival and growth of a business enterprise, which calls for the need to channel efforts of businesses towards realizing efficient financing decision, which will protect the shareholders interest. This implies effective planning and financial management through combination of an optimum capital structure by managers so as to maximize the shareholders wealth. A firm can finance investment decision by debts, equity or both. Financial managers are facing difficulties in precisely determining the optimal capital structure. Optimal capital structure means with a minimum weighted average cost of capital and maximize the value of the organization.

Furthermore, capital structure and its impact on performance have been investigated for many years, but researchers have found different results with different contexts. Accordingly, there is no specific result, which can be generalizes on the extent of the relationship between capital structure and firm performance, thus there is a constant for new research in different context for achieving a more complete understanding for the dynamics of the capital structure and firm performance interchange.

Theissues of capital structure are commonly, not given attention in developing countries, such as Ethiopia. The primary reason is that firms in those countries face major financing constraints, such as undeveloped bond markets and ineffective bank lending. It is important for developing countries to better understanding their financial institutions and the nature of their funding sources.The financial managers very important to know issue capital structure decision in these institutions.To them in fulfilling their goals, it is important to provide them with knowledge that relates to various determinants of financing. It would help financial managers to improve their financing decisions regarding theirfinancing mix. By taking into account some key variables that affect their capital structure, financial managers can better achieve their overall performance goals.As result, these are important issues for the insurance managers, professionals, regulators and policy makers to support the sector in achieving the excellence so that required economic outcomes could be obtained from the help of the sector in Ethiopia by understanding the success and failure factors of performance.

1.2 Statement of the Problem

The issue of capital structure has been a subject of major concern for researchers and scholars in recent years.Such concern has brought about a lot of arguments on the subject which led to numerous studies on it in the area of firms finance over the years.

The study made by Modigliani and Miller (1958) stated that under the perfect market, a firm's financial structure would not affect firm value of its cost of capital. However, in 1963 Modigliani and Miller argued that in a reality, a firm's value could be increased by changing the firm's capital structure, because of tax advantage of debts. Since they study, capital structure and its effect on firm performance has became an issue that attract a large amount of researchers, such as Kester W. (1986) Capital andOwnership structure, Zeitun and Tian, 2007), Onaolapo, A. and Kajola S.O (2010), Saeedi A. (2011),etc.

An appropriate capital structure is a critical decision for any business organization. The decision is important not only because of the need to maximize returns to various organizational constituencies, but also because of the impact such a decision have on an organization's ability to deal with its competitive environment. Following the work of Modigliani and Miller (1958 and 1963), much research has been carried out in corporate finance to determine the influence of a firm's choice of capital structure on performance.

In spite of the number of theories havein explaining the capital structure of firms. Despite the theoretical, appeal of capital structure, researchers in financial management have not found the optimal capital structure. For example, the lack of a consensus about what would qualify as optimal capital structure has necessitated the need for this research. A better understanding of the issues at hand requires a look at the concept of capital structure and its effect on firm performance.

According to Jensen and Meckling, (1976) drew concentration to the impact of capital structure on the performance of enterprises, number of tests as an extension port to inspect the relationship between performance of firm and financial leverage.However, the results documented were contradictory and mixed. Some studies have reported positive relationshipsGhosh.et al, (2000), Hadlock and James, (2002) etc. Several others have reported a negative relationship between debt and financial achievement like (Fama and French, 1998) and Simerly and Li, (2000). Capital structure is said to be closely link to the financial performance Zeitun and Tian, (2007).

But, there were few researches directed towards developing countries that applicability of the theories of capital structure derived from the developed nations. Mayer (1990), Singh (1995), Cherian (1996), Cobham and Subramanian (1998) were among the scholars who have studied the capital structure issue in the developing nations.One of the recent empirical studies ondetermining the factors affecting capital structure in developing countries have been attempted by Booth et al. (2001). In their studies, a sample consisting of 10 developing countries were analyzed. From their analysis, the authors have concluded that the variables that explain the capital structures in developed nations are also relevant in the developing countries irrespective of differences in institutional factors across these developing nations.

However, in Ethiopia as to the knowledge of the researcher there were few papers, which relates with this title these are Kebede (2011) investigated the determinants of capital structure in Ethiopia small scale manufacturing co-operatives, Bayeh(2011)investigate empirically capital

structure determinants in the case of insurance industry in Ethiopia,Amanuel (2011)The determinants of capital structure evidence from manufacturing share companies of Addis Ababa city, Shibru (2012) who examined determinants of capital structure of commercial banks in Ethiopia,yuvarajsambasivam and Abate(2013) the study examine the performance of insurance companies in Ethiopia.

Those previously conducted research in Ethiopia were a few investigated determinants of capital structure. But, the aim this research was to investigated the determinants of capital structure and its impacts on the performance of the firm. This study attempted to reduce the gap by analyzing capital structure determinants and its impacts on performance specifically in Ethiopian insurance industry.Many insurance companies do not know explicitly the specific determinants that affect their performance, which leading them to make informal decisions regarding their financial mix that are suffer to error. Therefore, the researcher attempt to clarify some of the key firm characteristics that managers need to consider when setting their "optimal" capital structure.

The light of above , there is no extensive of empirical studies in Ethiopia concerning the relationship between of capital structure and performance in the context of the Ethiopian insurance companies, which is, motivated the researcher to put his own contribution on what factors affect the financial performance of insurance companies. While taking in to consideration the insufficient empirical investigation into the factors affecting insurance companies' financial performance, the researcher attempts to work on such untouched empirical evidence in the country.

Besides this, the study attempts to determine how firms choose their capital structure, while considering many significantfactors that might affect it in order to achieve their primary objective: maximizing value and shareholder wealth,while overcoming the conflict of interest between its shareholders and managers. The researcher particular goal here is to investigate the capital structure determinants and its impacts on performance in the context of Ethiopian insurance industry.This study attempts to analyze the relationship between capital structure and firm performance and provides applicable guideline for anyone who wants to have insight of the theory capital structure perspective.

1.3 Objectives of the study

The primary objective of this study was to understand determinants of capital structure andits impact on the performance of Ethiopian insurance industry and to know which theories of capital structure are attractive to Ethiopian insurance industry.

1.3.2 Specific objectives of the study

The specific objectives this study tried to find evidence for:

1. To identify the most important determinants of the capital structure of Ethiopia insurance industry.

2. To determine relationship between capital structure determinants and the performance of Ethiopian insurance industry.

1.4 Research questions (RQ)

The researcher wants to explore the current study with reference to the following research questions:

1. What are the most important determinants of capital structure in Ethiopian insurancecompanies?
2. What extent the impact of capital structure determinants on the performance of Ethiopianinsurance companies.

1.5 Research Hypotheses

The trade-off theory suggests an optimal capital structure mix for a firm to achieve the minimum cost of capital for financing. Theoretically, the expected minimum cost of capital should reflect the maximum financial performance and maximum welfare of shareholders. This is important for financial management in which, if the determinants of capital structure does not lead to the increase of the firm's performance, there is no need for financial managers to search for those determinants. The following hypotheses test whether the of capital structure directly affect the profitability the firm (performance).To achieve the objective of this study, in addition to the research questions presented above the following hypotheses concerning the capital structure determinants and its impact on performance of Ethiopian insurance companies would be test.

First, a set of hypotheses represent the relationship between determinants of capital structure and leverage level.

Growth opportunity

Empirically, there is much controversy about the relationship between growth opportunity and level of leverage. Pecking –order theory assumes that growing firms depend on internal funds more than external funds. According to Michaela's& Chittenden (1999) Firms with rapid growth opportunities are looking for more debt due to the lack of their internalearnings.Therefore, it is expected,growth opportunity positive relationship with debt.

H0: There is a positive relation between growth opportunities and debt.

Firm's Size

Trading-off theory assumes that large firms are more diversified, have lower risk,better reputation, more stable cash flows and fewer hazards to be liquidated. This gives large firms easier accessto the capitalmarkets with negligible debt costs. Thusthese firms are stronger to face bankruptcy and financial distress. Consequentlya,positive relationship between a firm's size and debt level is expected.

H0:There is either a positive relationship between a firm's size and leverage.

Tangibility assets

Agency theory suggests that collateralized assets can be used as a monitoring instrument to control managers, and prevent threats of transferring wealth from debt holders to shareholders. Lenders require collateral since it is considered an explicit promise over debt. Therefore, a positive relationship is expected between tangibility asset and leverage level.

H0: There is a positive relation between assets' tangibility and leverage

Firm's liquidity

Liquidity has various impacts on the capital structure choice. Firms with high liquidity may have high debt because of their ability to meet short-term liabilities which means a positive relationship between liquidity and leverage level.

H0: There is either a positive relationship between liquidity and leverage.

Business risk

According to Castanias, (1983) the level of risk is said to be one of the primary determinants of a firm's capital structure. The tax shelter-bankruptcy cost theory of capital structure determines a firm's optimal leverage as a function of business risk. Despite the broad consensus that firm risk is an important determinant of corporate debt policy, empirical investigation has led to contradictory results. A number of studies have indicated an inverse relationship between risk and debt ratio (Bradley et al., (1984), Titman &Wessels (1988). But in this study, positive relationship was expected.

H0: There is no significant relation between the business risk andleverage

The second part of hypotheses represents the direct relationship between determinants of capital structure and a firm's performance

Firm's Leverage

The pecking order theory of capital structure shows that if a firm is profitable, then it is more likely that financing would be from internal sources rather than external sources. In other words, firms tend to use internally generated funds first and then resort to external financing. This implies that profitable firms will have less amount of leverage (Myers and Majluf, 1984).By this profitable firms that have access to retained profits can rely on them as opposed to depending on outside sources (debt). In developing countries most of studies like,Antoniou et al, (2002) and Bevan and Dan bolt (2002), Booth et al, (2001), Pandey (2001), Wiwattanakantang (1999), Chen (2003) and Al-Sakran (2001) all found a negative relationship between leverage ratios and profitability. Therefore, it is expected that there is negative impacts between firmleverage andperformance.

H01: Firm's Leverage has a negative impact on performanceof insurance companies in Ethiopia.

Firm's Growth opportunities

Trade –off theory considers the growth opportunities as the indicator of the firm success, these firms are stronger to face financial distress. Firm with good growth opportunities have a good recognition in getting funds, easier access tothe finance market and it shows or reflected in better performance for these firms. According to the agency theory perspective, firms with high good growth opportunities, have lower agency costs.The extant literature considers growth opportunities available to a firm as an important determinant of firm's performance, hence the introduction of independent variable, GROW, a proxy for growth opportunities in this study.

Zeitun and Tian (2007) argue that growth firms are able to generate profit from investment. Therefore, it is expected,growthinfluenced the profitability of the firm.

H02: Growth has a positive impact on performance of insurance companies in Ethiopia.

Firm's Size

Trading-off theory assumes that large firms are more diversifid, more to use economies of scale production, have greater access to new technology and cheaper sources of funds, and investors believe that large companies are less risky. This suggests a positive relationship between size and performance.

H03: Firm's size has a positive impact on performanceof insurance companies in Ethiopia.

Tangibility assets

The most common argument in the literature favors a positive relationship between asset tangibility and performance.Macide (1990) concludes that a firm with high fraction of plant and equipment (tangible assets) is the asset base made the debt choice more likely and influences the firm profitability.Akistnye (2008) argues that a firm, which retains large investments, is tangible assets will have smaller costs of financial distress than a firm that relies on intangible assets. The relationship between asset tangibility and profitability the firm is expected to be positive. The hypothesis to be tested here is:

H04: Tangibility has a positive relationship with performance of insurance companies in Ethiopia.

Firm's liquidity

According to trade-off theory high liquidity position, for the firm's indicates that this firm's strong enough to face any short or long term financial problems, this strong firm can perform better than a weak firm which has weak liquidity position in its financial statements. This may indicate a relationship between a firm's liquidity and the profitability the firm's as stated by the following hypothesis.

H05: Liquidity has a positive relationship with performance of insurance companies in Ethiopia.

Firm's business risk

According to the agency theory, the required return of the investors should be suitable to their risk in the firm. Shareholders will require high return in order to hold the risk related to the bankruptcy and financial distress since debt holders have the priority in the case of bankruptcy.

In addition, the debt holders will require such to hold the risky agency conflicts with shareholders and management. This will encourage the managers to maximize their performance in order to fulfill the requirements of these investors, which may indicate a relationship between firm's risk and performance as represented the following hypothesis.

H06: There is a positive relationship between business risk and performance of Ethiopian insurance companies.

1.6 Significance of the Study

The main objective of this study was the determinants capital structure and its impacts on the performanceof Ethiopian insurance industry. Ingeneral, this study will cover many aspects of the topicbut specifically it has been tried to determine the relationship between of capital structure determinants and performance of the firm. This study especially will help the managers to take the financing decision for their firms.The creditors can also take the benefit to minimize their risk, in funding a specific sector firms.This study will be beneficial to Ethiopian insurance company's management and investors in making clear decisions on capital structure. In addition to the above, a lot of work is written because of the endless argument on capital structure theories. This study is another contribution to the existing work on the study of the impact of capital structure on performance of Ethiopian insurance companies.

1.7Scope of Study and limitation study

The main objective of this studywas limited to the capital structure determinants and its impact on theperformance in the context of Ethiopian insurance during the period 2004-2013. This study has clear and expected limitation in the amount of data that will be used, because the researcher only using data from balance sheet and income statement during the period (2004-2013. This thesis only focuses on the issues raised in the research question.

This study was based on secondary data collected from National Bank of Ethiopia. Therefore, the quality of the study depends purely upon the accuracy, reliability and quality of the secondary data source. Approximation and relative measure with respect to the data source might impact the results.

1.8Structureof the research

The research paperis structured as follows. The first chapter discusses background of the study, statement of the problem, objectives, hypotheses, significance, and scope of the study.The second chapter 2 ,contains a review of the literature including, the Modigliani-Miller Theorem,theories of capital structure,empirical studies ondeterminants of capital structure&profitability of the firm andoverview of insurance industry in Ethiopia. The third chapter deals with about research methodology.The fourth chapter is also presents the analysis and empirical finding. The last chapter five which is presents the conclusion of the finding and recommendation.

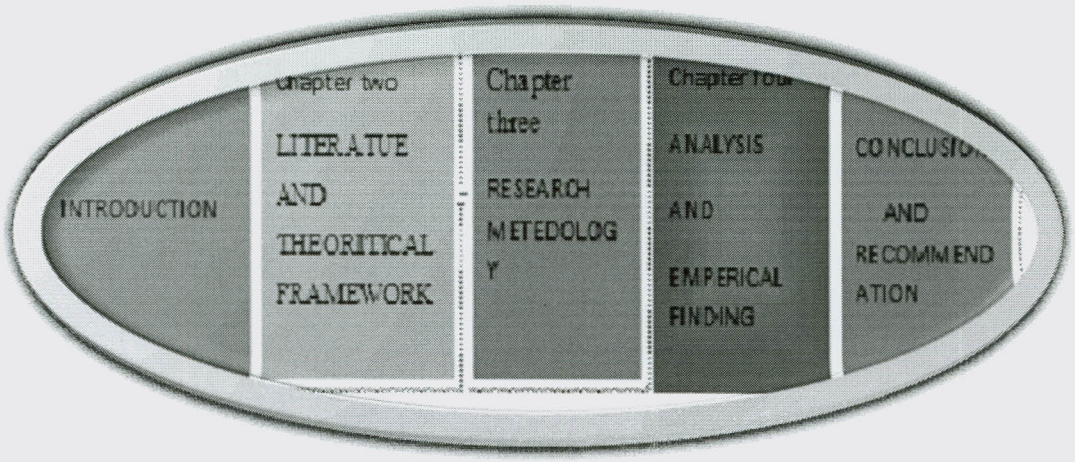


Figure 1: Thesis Outline

Chapter two:

2. Literature review

Introduction

A literature review is the backbone of research and connected tothe research topic and the appropriate research methodology. It is essential for researchers, as a reader, and for us, as authors, to have a concrete frame of reference in mind before continuing their search journey. Most of all, a solid framework represents the coherence of the theories chosen. This chapter discusses Modigliani-Miller theorem, theory of capital structure, (trade-off theory, pecking order theory & agency cost theory), capital structure and corporate performance, determinants of capital structure,review of empirical studies, and over view of Ethiopian insurance industry.

Capital structure has been an important focus point in the literature since Modigliani andMiller started publishing their research about it in 1958. Capital structure is a remarkable topic because it has researched in both academic level and corporate level since the financing decisions of a firm are of vital importance for its operating and investing activities. Therefore, there are many theories, which discuss it in many different ways. It is referred how a firm mixes debt and equity in order to finance itself or in other words, it concerns about combination of funds, in the form of debt and equity.

Therefore, there is still hot debate regarding that does an optimal capital structure exist and how capital structure affects firm performance and vice versa.The issue of capital structure is concerned with the optimal mix of debt and equity in the capital structure.This mix results in minimum weighted average cost of capital andthis consequently maximizes the firm's financial performance in terms of shareholders' value.

The optimal capital structure in the real world can beexplained by the trading-off between the gains from debt and different related costs such as bankruptcy, financial distress and agency costs (Scott 1976) and (Copeland & Weston 1992).The leading theory of capital structure was started in 1958 by Modigliani and Miller. The demonstrate that in a perfect world (no taxes, perfect and credible disclosure of the information and no transaction and agency costs), the level of debt in a firm's capital structure would have no impact on the firm's value and performance, as well as shareholder value. After this initial work, capital structure mainly depends on theories which include corporate taxes, financial distress, agency costs, trade off and signaling. In their later work, (Modigliani and Miller 1963) focus initially on the advantages of debt finance

through the effect of corporate taxes. Debt is useful through the trading-off between the benefits of tax reduction on interest payments and the costs of financial distress. In 1977 Miller continues to their work and states that the firm has an incentive to use debt and will continue to use it until their additional supply drives up interest rates to the point where tax advantages of interest deduction are completely offset by higher rates.

2.1 Theories of Capital Structure

Capital structure theory, as known today, originates from the work of Modigliani and Miller, hereafter named M&M, who published their famous article in 1958. Many, if not all business and finance academics have heard and know about M&M's capital structure irrelevance proposition and several textbooks within corporate finance begin their explanations of capital structure and cost of capital with the work of M&M.

In addition M&M Myers (2002) indicates that the capital structure theories and empirical evidences focus mainly on financing strategy as well as the selection of an optimal debt ratio for a certain type of firm that operates in a distinct institutional environment. According to Myers (2002), these theories are credible not because they do a perfect job highlighting the differences in total debt ratios, but because the costs and benefits that drive the theories at work in financing strategies can be observed. While there is no universal theory of capital structure, there are however, some relevant conditional theories and these theories can be distinguished in their relative focus on the factors that could significantly impact the right mix of debt and equity. These factors comprise taxes, agency costs, and differences in information, institutional or regulatory constraints and a whole lot more (Myers, 2002). The same author stressed that each of these factors could be very significant for some firms and for other firms they could be highly unimportant. The leading theories are given below. Majority of these theories overlap and a blend of these theories help in explaining capital structure.

2.1.1 The Modigliani-Miller Theorem

As previously mentioned, the irrelevance theory of capital structure, which has been introduced by Merton Miller and Franco Modigliani (1958)-denoted by M&M throughout the researcher paper-was the first break through in relation to the subject of capital structure and its effects on financial performance. They first hypothesized that if markets are perfectly competitive, firm performance will not be related to capital structure, there by suggesting no significant relationship between a firm's capital structure and its performance. The value of the firm is similarly unaffected by its financial structure. Their assumptions of a perfectly competitive

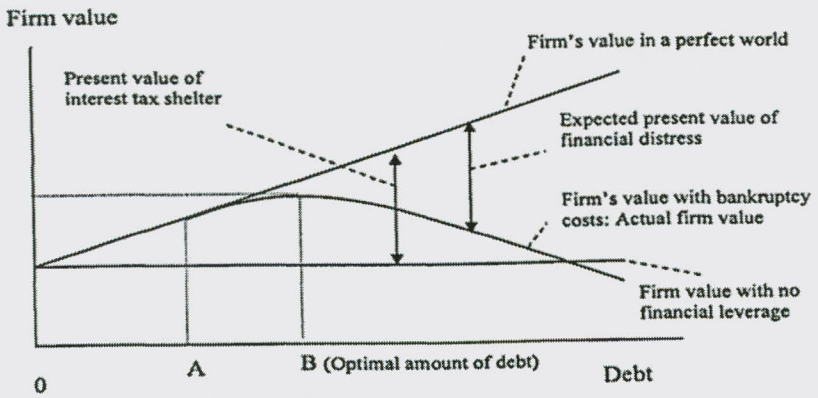
market exclude the impacts tax, inflation and transaction costs associated with raising money or going bankrupt. In addition they also assume that disclosure of all information is credible, thus there is no information asymmetry (Hamada, 1969 and Hatfield et.al, 1994). There were various criticisms, which encouraged M&M to issue an alteration to their first theory, which refers to as MM2. In their revised proposition they incorporated tax benefits as determinants of capital structure. The vital characteristic of taxation is the acknowledgement of the interest as a tax-deductible expenditure.

According to M&M a company that respects its tax obligations, benefit from partially offsetting interest, namely the tax shield, in the form of paying lower taxes. Thus M&M indicate that companies can maximize their value by employing more debt due to tax shield benefits allied with the use of debt. Hence, firms benefit from taking on more leverage. M&M show that firm value and firm performance is an increasing function of leverage due to the tax deductibility of the interest payments at the corporate level (Modigliani & Miller, 1963).

In reality, markets are inefficient, due to taxes, information asymmetry, transaction costs, bankruptcy costs, agency conflicts and any other imperfect elements. When taking these elements into consideration, the M&M theorem tends to lose the majority of its explaining power. Even though M&M theory was heavily criticized of some weaknesses and its irrelevant assumptions of the real world, this theory still provides the foundation for many other theories suggested by other researches.

2.1.2Trade-Off Theory

The tradeoff theory model originated from the debate over the M&M's theorem. When corporate tax was added to the original irrelevance proposition of M&M, a benefit for debt is observed that serves to shield earnings from taxes.This theory states that the optimal capital structure is the trade-off between the benefits of debt (i. e., the interest tax shields) and the costs of debt (i. e., the financial distress andagency costs) (Brigham and Houston, 2004). The figure below clarifies the idea of this theory.



Source: (Brigham & Houston 2004)

Figure 2.1 trade off theory

As we can see from the above figures,the straight line represents the firm's value in a world without bankruptcy costs; the curved line shows the value with these costs.The curved line increasesas the firm moves from all equity to a small amount of debt toward point A in the figure. On this point, the expected present value of distress costs is less because the probability of distress is unimportant. Beyond point A, the bankruptcy costs becomerises importantand the present value of these costs rises at an increasing rate,and they reduce the tax benefits of debt in an increasing rate.Between A and B, point's bankruptcy costs will minimize,but not equalize the tax benefits of debt so the firm's value increasing at decreasing rate as its debt ratio increases. At point B, the rise of the present values of these costs from an additional amount of debt equals the rise in the present value of the tax shields. This level of debt is the optimal level which maximizes the value of the firm represented by B in the figure above. Beyond this point, bankruptcy costs more than the tax shields and this implies a reduction in the firm's value for further leverage. Therefore, the firm's value of the levered firm will be the value of the un-levered firm plus the value of tax savings minus the present value of the expected costs of financial distress (Brealey& Myers 2000).

Because interests are tax deductible, debt will be less expensive than other financing resources like common or preferred stocks and then debt provides tax shelter benefits. Consequently, the more debt a company uses, the higher it value and stock price.

According to Damodaran (1997) summarizes the advantage and disadvantage of borrowing as shown in the following table.

Advantage of borrowing	Disadvantage of borrowing
Tax benefits: Higher tax rates =higher tax benefits	Bankruptcy costs: Higher business risk=higher the costs
Added discipline: Greater the separation between managers and shareholders=greater benefits	Agency costs: Greater separation between managers and lenders =higher the costs

Table 2.1 Adopted from Damodaran (1997)

2.1.2.1 Empiricalresults of trade-off theory

Study made byWippern(1966) investigated relationship between financial leverage and firm performance. In his study he used debt to equity ratio as financial leverage indicator and earning to market value of common stock as performance indicator. His results indicated that leverage has positive effects on firm performance.

Capon et al. (1990) conducted a meta- analysis from 320 published studies related financial performance, and found a positive relationship between usage of leverage levels and financial performance. In 1995 Roden and Lewellen analyzed the impact of capital structure on performance for 48 US based firms with a leveraged buyout during the period 1981 through 1990, using multinomial logit models. Their results indicate a positive relationship between firm performance and its leverage policy based on tax considerations. Their findings wereconsistent with the trade-off theory.

According toAbor (2005) carried out regression analyses to analyze the impact of leverage ratio on firm performance between Ghanaian listed firms over the period 1998 to 2002. Throughout his analysis, he compared the capital structures of publicly quoted firms, large unquoted firms and small and medium enterprises. He based his models on three measures of leverage, namely, short-term debt over total assets, long-term debt over total assets and total debt over total assets, on performance, measured by the Return on Equity. His results indicate that there exists a significantly positive relationship between the short-term and total debt and Return on Equity.

The study made by Arbiya and safari (2009) also documented similar results, after analyzing the impact ofleverage ratios of 100 Iranian publicly listed firms on their performance over theperiod 2001 to 2007. They found that short term and total debts are positively related to profitability measured by ROE, but found a negative relationship between long-term debts and ROE.

According to the studies Umar et al.'s 2012, findings also suggest a positive link between firm performance and leverage, wherethey measured performance and leverage by respectively earnings per share andcurrent liabilities to total assets. They used an exponential generalized least squaresapproach to study the top 100 firms on the Karachi Stock Exchange over the period2006 to 2009 and they document consistent findings supporting the trade-off theory.

2.1.3. Pecking Order Model

Unlike the trade-off theory, the pecking order theory does not assume an optimal level of capital structure. As previously indicated Myers and majluf (1984) favor the pecking order theory, which incorporates the assumption of information asymmetries and transaction costs.This pecking order theory therefore suggests that firms should follow a financing hierarchy in order to minimize information asymmetry between the parties. It states that companies prioritize their source of financing, from internal financing to equity financing, according to the principle of the least resistance, preferring to raise equity as a financing means of last resort. So, the pecking order theory claims that internal funds are used first and only when all internal finances have been depleted, firms will optimum for debt. When it is not sensible to issue any more debt, they will eventually turn to equity as a last financing resource.

Summarizing, theory predicts that more profitable firms that generate high cash flows are expected to use less debt capital than those who generate lower cash flows. The pecking order theory argues that businesses adhere to a hierarchy of financing sources and prefer internal financing when available. However, when external financing is required, firms prefer debt over equity.Equity entails the issuance of additional shares of a company, which generally brings a higher level of external ownership into thecompany. Therefore; the form of debt that a firm chooses can act as a signal for its needof external finance.Thus firms that are profitable and therefore generate high cash flows are expected to use less debt compared to those who do not generate high cash flows. This theory therefore suggests that firms prefer debt to equity (Muritala, 2012).

All of the mentioned mechanisms suggest that the pecking order theory claims a negative relationship between capital structure and firm performance, since more profitable firms opt to use internal financing over debt.

2.1.3Empirical results of pecking order theory

Hitherto, extant literature on the pecking order theory has provided mixed evidence regarding the impact of capital structure on firm performance. Analyzing the data from the network stock exchange covering various sectors over the period 1971 to 1989, shyman-sunder and Myers (1999) find evidence in favor of the pecking order theory. On the other hand, Frank and Goyal (2003) found a little support for the pecking order theory, while they also used American publicly traded firms covering period's 1971 to1998. They argued that net equity issued as opposed to net debt issued, is more closely correlated with financing deficit.They also highlighted that the pecking order hypothesis seems to be more applicable for data prior to 1990.

Study made by kester (1986) recorded a negative link between capital structure and firm performance in the U.s and Japan. Similar results, negative relationship between capital structure and financial performance, were reported for US firms by friend and Lang (1988) as by Titman and wessels(1988). According to the study Rajan and Zingales(1995) used data from F7 countries and recorded a negative relationship between firm leverage andfirm performance.

Also, Wald (1999) found similar results for the developed countries, whileWiwattanakantang (1999) also reported a negative relation between book leverage and market leverage and ROA for 270 Thai firms.

According the studies of Fama and French also tested the pecking order and the trade-off theories on more than 3000 firms in their publication of 2002. Their study covered the period 1965 to 1999. Their models were based on both cross-section and time series methods in order to check for robustness of their results. They support the pecking order theory by documenting a negative relationship between a firm's leverage and its performance.

Accordingto Minton and Wruck (2001) examined domestic financial conservative firms and their capital structure over the period of 1974 to 1998 and they concluded that the performance of low leverage firms outweigh the performance of high level firms. This thus indicates that there is a negative relationship between leverage and a firm'sperformance.

2.1.4. **Agency Cost Theory**

The next important theory mentioned in the literature is the agency cost theory. Jensen and Meckling developed this theory in their 1976 publications. This theory considered debt to be a necessary factor that creates conflict between equity holders and managers. Both scholars used this theory to argue that the probability distribution of cash flows provided by the firm is not

independent of its ownership structure and that this fact may be used to explain optimal capital structure. Jensen and Mecklingrecommended that, given increasing agency costs with both the equity-holders and debt-holders, there would be an optimum combination of outside debt and equity to reduce total agency costs.

Research made by Fama, Miller, Jensen (1976) observed how agency cost model. This is known as an agency cost model. It states that capital structure is determined by its agency cost. They found two types of problems create agency theory those are conflict between firm managers and shareholders as well as conflict between debt holders and shareholders.

Conflict between firm managers and shareholders:

According to the Brealey and Myers (2003) observed firm manager directly deal with the agent on behalf of major shareholder interest. Most of the firm manager wants to run large with high probability of risk. This tends to undertake negative NPV projects. However, without a reward firm manager do not involve large and risky project even if they expect the project give positive NPV. This problem creates a conflict of interest between managers and shareholders. As a consequence, the agency cost problem arises. Some time manager consumes firm valuable resources used their power (Jensen and Meckling, 1976).

The conflict also places in the corporation because shareholders and managers always disagree when modifying company business policy. They want to set business policy in a way that will meet their own interest. So, this problem crucial and emerged every corporation.

Conflict between debt holders and shareholders: Managers are working for shareholders and they want to give priority shareholders interest. Manager invests risky project that will benefit for major shareholder not better for the bondholder. According to the empirical study of paper found three kinds of problem arise between bondholders and shareholders. These are: asset substitution problem, managers invests risky project that increases firm value, but they don't like engaged appropriate mature bond that increases bondholders return and under investment problem.

Bondholders also expect the manager invest safe and low return project that probability of risk is very low. Thus, firm can paid their debt on time. But firm manager chooses risky projects that indicated a high probability of losing capital. If they lose, no cash available to paid their loan. Most of the cases, shareholders prefer a firm manager invest risky project with high probability of success that they repaid their loan quickly and keep their ownership safe. If the risky project gave negative NPV, than shareholder has possibility of defaulter. They can't repay their loan on

time.As a result, shareholders lost their control of ownership and they simply transfer their firm to the bondholder and creditor like bank in case of China (Megginson and Smart, 2006).

Solution of agency problem: After empirical study this paper found two important paths that reduce agency problems. These areas as follow: Shareholders can monitor manager activity that may reduce the problem. It can reduce agency cost (Brealey and Myers, 2003). Monitor is done by the board of the firm, auditors and the lender (Bank) andShareholder concern about firm managers benefits not think about their own interest.

2.1.5 Free cash flow theory

Following the main agency theory as advanced by Jensen and Meckling 1976 and the existence of information of information asymmetry between managers and shareholders, (Jensen 1986) expanded the work to highlight an important problem, the free cash flow.

> *"Free Cash flow is cash flow in excess of that required to fund all projects that havepositive net present values when discounted at the relevant cost of capital "... (Jensen1986).*

Substantial free cash flows in the hands of managers can be used in increasing dividends or repurchasing stocks and there by payout current cash. Otherwise, managers will invest in low-return projects. Debt is used to control the manager's opportunistic behavior by reducing the free cash flows. This will prevent over investment or investment in negative projects by committing the managements to pay fixed interest payments.

2.2 Optimum capital structure

Over half a century ago, the theory of capital structure has been dominated by the search for optimal capital structure. The firm'soptimal capital structure involves trade-off between tax advantages of debt and various leverage related costs. When a firm is called optimum, it is actually balancing between debt and equity. The firm's optimum capital structure has been studied by many research scholars like Miller (1977), Myers (1984), etc. In most studies of finding the optimal capital structure, macroeconomic data will be used. However, study using the firm specific factors on optimal capital structure was carried out by Bradley et al. (1984). A model that captures the existence of tax advantage and bankruptcy cost trade –off was developed. To represent the optimal capital structure model, the assumptions are made. Investors are risk-neutral, Investors face a progressive tax rate on return from bonds while the firmfaces fixed tax margin, Corporate and personal taxes are based on the end of period wealth, equity returns are taxed at a constant rate, there exist non-debt tax shields, negative tax bill are

not transferable, the firm will incur various costs associated with financial distress should it fail to pay

For the purpose of the study, a sample of 851 firms in the US covers 25, two digits SIC industries was selected. Three firm specific factors were examined to see the implication on the theory of optimal capital structure namely volatility (represents financial distress or risk), non-debt tax shield (represent tax advantage), advertisement, research and development expenses.Volatility was calculated as the standard deviation of the first difference in annual earnings before interest, depreciation and taxes over the period 1962 to 1982 divided by the average value of total assets. The non-debt tax shield was measured by the ratio of the 20 years 1962 to 1982 sum of annual depreciation plus investment tax credits divided by the sum of annual earnings before interest, depreciation and taxes over the period.Whereas, the level of advertisement, research and development was given by the 10 years 1973 to 1981 sum of annual advertisement plus research and development expenses divided by the sum of annual net sales over the same period. They found that optimal firm leverage was inversely related to variability of firm's earnings and advertisement plus research and development costs and positively with tax benefits. From the study, the result is confirmed that optimal capital structure existed in the US dataset.

In generally the issue of capital structure is concerned with the optimum mix of debt and equity in financing structure and its expected role to affects the firm value.Modigliani and Miller (1958) theory provides the background for the subsequent theories. They start their work assuming a perfect world. However, financial distress costs in the real world are playing an important role in defining the optimal structure. Agency problem is appeared since the agent will not behave perfectly in the interest of the principal and this includes the agency costs of debt and equity.

The preceding arguments led to the development of the trade-off theory of capital structure. This theory states that the optimal capital structure is trade-off between the benefits of debt (interest tax shields) and the cost of debt (the financial distress and agency costs). In addition pecking order theory, assumes that it is better to issue safe securities than risky ones, starting with bonding markets from external financing, raise equity by retention if possible. Moreover, firms whose investment opportunities exceed operating cash flows and which have spent their ability to issue low risky debt may forgo good investments rather than issue risky securities to finance them.

Theory	Relationship	Causality
Modigliani and Miller(1963)	positive	Performance affect debt
Trade-off	Positive	Performance affect debt
Pecking - order	Negative	Performance affect debt
Free cash flow	Positive	Performance affect debt
Agency	Negative	Debt affect performance

Table 2.2 Summary of capital structure theories

2.3Capital structure and corporate performance

The issue concerning the relationship between capital structure and corporate performance is an issue that has been considered as very important to both academics and experts in the business world San and Heng,(2011). While there is a scarcity of statically evidence about the impact of capital structure on corporate performance in advanced and developing economics, majority of the past research on capital structure have always been from the determinants on corporate leverage.

The capital structure has always been considered as one of the major components that could have an impact on corporate performance.In explaining what the concept of performance entail Tian and Zeitun, (2007) write that the concept is a disputatious one in finance mainly because of its multi-dimensional meanings. They also describe performance measures as measures that include either financial or organizational or operational.

According to study made by Tia &Zeitun(2007),financial performance measures like maximizing the profit on assets, as well as maximizing the benefits that accrue to shareholders are at the centre of effectiveness of the firm. While the studyHoffer and Sandberg (1987) write that measure like the growth in sales and market share were operational performance measures that give a wide explanation of performance as they emphasize the variables that eventually lead to financial performance.

Study made by San and Heng,(2011),the use of financial measurement help to indicate a firm's financial strengths, weaknesses, opportunities and threatsand they listed the return on investment (ROI),residual income (RI),dividend yield, earning per share(EPS),price earnings ratio, growth in sales,etc as tool that help in this measurement.

In connection this, Raviv (1991) argued that there is a suitable capital structure for firms, and that going beyond this capital structure could create increases in the cost of bankruptcy, which

would exceed the extra-tax-sheltering advantages connected with an increasing substitution of debt for equity. Therefore, most firms are ready to maximize their performance and reduce their cost of financing by balancing the debt and equity mix.

The study conducted by Harris &Raviv,(1991) also argued that underrating the joint interest of both managers and shareholders as well as the bankruptcy costs of liquidation and reorganization had a tendency to make firms have additional debt in their capital structure thus affecting the firm's performance.

In addition of those, different studies have been carried out to examine the impact, which capital firm debt level can have on corporate performance.

Abor (2005) carried out a study to examine the influence which capital structure had on the profitability of quoted companies on stock exchange of Ghana over a five year period and discovered that there exists a significant positive relationship between short term debt to assets and Return on equity (ROE).This suggests that most firms in the country that earned high profits also use more short-term debt to finance the running of the firm. However the study showed a negative relationship between long term debt to asset and return to equity (ROE). The overall result of the study showed a positive relationship between debt to asset and ROE, which shows the relationship between total debt and profitability, thus indicating that firms that earn high profits also depend on debt as a major funding option Sanand Heng, (2011).

Another research by Gleason et al.(2000) on the interrelationship between culture, capital structure and performance based on data collected from 14 European retailers, showed that there exists a significant negative relationship between the capital structures of these retailers and their return on assets (ROA), growth in sales (Gsales), and pre-tax income (ptax). The study also showed that while capital structure varied by the cultural classification of retailers, the performance of these retailers was in no way dependent on cultural influence overall, the corporate performance.

The study conducted by Wessel (1988) and Barton et al. (1989) agree that firms with high profit rates would maintain relatively lower debt ratios since they can generate such funds from internal sources.

2.4 Empirical studies capital structure determinants and performance

In addition to above, empirically literature there is no comprehensive study between determinants of capital structure and financial performance according to the knowledge

researcher. However, size- performance and risk –performance are well investigated in previous studies. Few studies have highlighted the relationship between firm's characteristics and its profitability of the firm. The following section summarizes all available studies in this concern.

Firms Leverage

The pecking theory of capital structure shows that if a firm is profitable, then it is more likely that financing would be from internal sources rather than external sources. In other words, firms tend to use internally generated funds first and then resort to external financing. This implies that profitable firms will have less amount of leverage (Myers and Majluf, 1984). By this, profitable firms that have access to retained profits can rely on them as opposed to depending on outside sources (debt). Murindeet al. (2004) observes that retentions are a principal source of finance. Titman and Wessel's (1988) and Barton et al. (1989) agree that firms with high profit rates would maintain relatively lower debt ratios since they can generate such funds from internal sources.

Empirical evidence from previous studies seems to be consistent with the pecking order theory. Most studies found a negative relationship between profitability and capital structure Friend and Lang, (1988); Barton et al., (1989); Van der Wijst and Thurik, (1993); Chittenden et al., 1996; Jordan et al., (1998); Shyam-Sunder and Myers, (1999); Mishra and McConaughy, (1999);. Cassar and Holmes (2003), and Hall et al. (2004) also suggest negative relationships between profitability and both long-term debt and short-term debt ratios.

Petersen and Rajan (1994), however, found a significantly positive association between profitability and debt ratio. Therefore, propose based on the pecking order theory that a negative relationship exist between profitability and leverage.

Growth opportunities

According to Brush, Bromiley, &Hendricks, (2000) in the light of free cash flow hypothesis, they conducted in Maryland-USA found a strong positive relationship between sales growth and a firm's financial performance in terms of stockholders' returns and return on assets. Additionally, for the top 500 Australian companies.

In addition of this Hutchinson and Gul, (2006) they found that firms with high investment opportunities are associated with lower agency costs and better return on equity.

According to Amidu,(2007), using return on equity and return on assets for Ghana, finds support for the fact that growing firms have a prospect of generating more returns for the owners.

Firm's size

Many studies investigate the relationship between size and firmperformance.

According to the studies(Orser, Hogarth-Scott, & Riding 2000), using Canadian firms using changes in gross revenue to reflect performance. Theyfind a positive effect for a firm's size support the arguments that size reflects greater diversification, economies of scale production, greater access to new technology and cheaper sources of funds.Besides, of those,(Shergill&Sarkaria 1999) using data of Indian firmalso confirm a positive relationship between a firm's size and financial performance.

However, according to the study, Moen, (1999) for a Norwegian company finds that export performance is not subject to thefirm's size (employment). He finds that small firms are just as successful as largefirms and the main competitive advantages are their products and technology.

Asset structure (tangibility)

According to shergill and sarkaria, (1999) investigates the impacts industry and firm characteristics on the firm- level financial performance for the period 1980-1990 and cover 171 Indian firms in twenty-one industry the groups.They are using the difference between the firm's performance rates and the market average, ROE, ROA and others. They find that capital intensity is positively related to the financial performance. They use two sets of measures to reflect the financial performance: Return on equity and return on assets as indicators for a firm's profitability on one hand, and growth in sales, growth in dividends, and growth in net total assets as measures for growth on the other hand.

Firm's liquidity

According to the researcher knowledge apart from (Wang, 2002) there is no studies address this relationship. But, (Wang, 2002)and, who addresses the liquidity management. He investigates the liquiditymanagement and its relationship with performance and corporate value using data ofTaiwan and Japan. Furthermore, he observes that the cash conversion cycle (CCC)has a negative relationship with the financial performance measured by returns onassets (ROA) or returns on equity (ROE) and this relationship is sensitive to industryfactors. Furthermore, he finds that aggressive liquidity management enhancesoperating performance.

Firm's business risk

Many studies investigate the relationship between risk and profitability. Among others (Shergill&Sarkaria 1999) using the data of Indian firms, they confirm the positive relationship between a firm's risk and financial Performance,(Dewan, Shi, &Gurbaxani 2007) using the Fortune 1000 and the total firm value toreflect performance,(Loudon 2006) for 15 markets, comprisinga mix of developedand emerging markets using equity returns.

2.5 Review of empirical studies

This study will not be complete without taking a critical look at some past empirical studies in terms of the purpose of the studies, the methodology that was adopted and the findings of the studies as are related to this current study. This is necessary in order to enable the researcherto see the gaps that might have been left or to get a brief view of some recommendations for further studies that might have been reported in these previous studies.

After introduction by Modigliani and Miller on their seminal paper on capital structure, there are quite a number of researches directed towards finding the determinants of capital structure choice. According to the literature, the empirical studies on the determinants of capitals structure are largely focused on the United States and other developed nations with similar institutions. One of the classical researches was carried out by Titman and Wessel's (1988) where they studied the theoretical determinants of capital structure by examining them empirically. The theoretical attributes namely: Asset structure, on-debt tax shields, growth, uniqueness, industry classification, firm size, earnings volatility and profitability were tested to see how they affect the firm's debt- equity choice. In their research, Titman and Wessel'sused four measures of financial that includes, long-term, short-term and convertible debt divided by market and by book values equity.The accounting and financial data form a total of 469 large firms in the United States were collected over the period from 1974 through1982 from the annual compute industrial files and U.S department of labor, Bureau of statistics, "Employment and earning publication." In this study, the scholars used a factor- analytical technique to mitigate the measurement problems encountered when dealing with proxy variables. The results indicated consistencies with theory for the factors affecting capital structure choices of firms. One of the few interesting conclusiondrawn from the studies include the negativelevels of debt to "uniqueness" of a firm's line of business. The short term debt ratio was negatively related to firm size. Besides that, a strong negative relationship was noted between debt ratios and past

profitability. This study however, did not provide strong empirical support on variables like non- debt tax shields, volatility, collateral value and future growth.

The objectives of Homaifar et al. (1994) examined theeffect of profitability, firm size, and future growth, non-debt tax shield, operating risk, dividend policy and uniqueness on the firm's leverage ratios. Their results showed a positive effect of firm size and future growth of earnings on the capital structure decision. The capital structure study revealed both consistent and contradictory results of the factors affecting capital structure choice of US firms.

Some studies on capital structure were carried out on Multinational firms operatingin the developed nations (Lee, 1986). Comparative studies between MNCs and domestic firms pertaining to the capital structure decision were also carried out in the developed nations

(Fatemi1988,Burg man and Todd, 1996).

According, Gropp and Heider, (2010) analyzed the factors determining the financial structure of U.S and European banks by collecting data for 14 years from 1991 to 2004 on 200 U.S and European banks. The main intention of this research was to identify the effect of variables such as collateral, profitability, market-to-book ratio, size, risk and dividend on banks. The empirical estimation of fixed effects regression model indicates that risk, profitability and dividend have negative impact on leverage of the bank while collateral and size have direct a relation with debt ratio and the separate analysis of US and European banks also reports the same results. Furthermore, they suggested that regulatory capital requirements are of second order importance.

According to Krenusz (2004) conducted empirical studies on the determinants of capital structure in the United States, Germany and Hungary. Among the ratio examined was liquidity ratio, which is given by the ratio of current over current liabilities. The result indicated a strong negative relation between leverage and liquidity.

However, in another study done on US, UK and Belgium, Anderson et al. (2002) provided a positive relation between leverage and liquidity of the firms in the UK and Belgium. Only firms in the US experienced the "predicted" negative results.

The issues of determinants of capital structure in developing countries, however, received little attention.

Lately, there were only few studies on the determinants of capital structure conducted in the developing countries. Singh and Hamid (1992) and Singh (1995) pioneered research into corporate capital structure in developing countries.

Singh (1995) observes that firms in developing countries finance their activities differently, which is attributable to the differences in their financial environment. The researcher examines financing patterns of top 100 corporations in ten developing countries in the 1980s. The basic conclusions are that first, the determinants of capital structure of corporations in developing countries follow an inverse pecking order theorem as the corporations rely heavily on external financing, bulk of which is short term finance. Secondly, top corporations in developing countries rely more heavily on equity issues than corporations in developed economies. In most developed economies, large issues of stocks by corporations are only done in periods of high takeover activity, while the developing corporations use the proceeds from equity to finance their regular investments. The study further revealed that government play substantial role in stock market formation and development in developing countries. The government pursues pro-equity financing policies and limit debt and equity of firms. In addition, according to the study, existence of global international markets gives a boost to stock market in less developed countries (LDCs).

The objectives study made by Omet andMashharawe (2002) examined the nature and determinants of capital structure choice of quoted non-financial firms in Jordan, Kuwait, Omani and Saudi from the period 1996 to 2001. The results show that firms in these countries have quite low leverage ratios. The authors therefore conclude that the empirical results indicate that the financing decision of the firms studied can be explainedby the determinants suggested by the mainstream corporate finance models.One of the recent empirical studies on determining the factors affecting capital structure in developing countries havebeen attempted by Booth et al. (2001). In their studies, a sample consisting of 10 developing countries wereanalyzed. From their analysis, the authors have concluded that the variablesthat explain the capital structures in developed nations are also relevant in the developing countries irrespective of differences in institutional factors across these developing nations.

According to the studies, Rajan and Zingales was focused to explaining thecross-sectional differences within countries. Four factors; tangibility of assets, the market tobook ratio (as proxy of growth), firm size and profitability were tested to see its influences on leverage. A cross–sectional basic regression model of leverage was developed with four of the factors

mentioned above as independent variables. The analysis showed that a one standard deviation increase in tangibility, the market to book ratio, log of sales and profitability changed book leverage by 23%, -37%, 23% and –11% respectively.They are noted as follows the across the countries, the asset tangibility was positively correlated with leverage for all the countries as theory supported the notion that firms having more fixed assets in their assets mix will use that as collateral to get more loans or debt. The market to book ratio seemed to be negatively correlated with leverage except for Italy. Having high market value of the stocks would enable firms to issue more stocks and not seeking debt. Size of firm was positively correlated while profitability was negatively correlated with leverage in all countries except Germany.

According to Liu (1999) conducted a study on determinants of corporate capital structure fromlisted companies in China between the period 1992 and 1997. He Using the OLS regression, the long-term debt ratio wasexamined to see whether there were any relationship with industry classifications, firm size, proportion of tangible assets, profitability, growth rate of assets and ownership concentration. The results indicated that debt ratio are positively related to firmsize, asset tangibility and growth rate and negatively related to ownership structure.

The study conducted by Huang and Song (2006) examined the determinants of capital structure in Chinese listed companies in order to investigate whether firms in the largest developing and transition economy of the world entertain any unique characteristics in their capital structure choice. The paper employed a new database containing both market and accounting data of 1216 Chinese quoted companies from 1994 to 2003. Six measures of leverage are were used in the study such as book long term debt (LD) ratio, book total debt (TD) ratio, book total liabilities (TL) ratio, market long term debt (MLD) ratio, market total debt (MTD) ratio and market total liabilities (MTL) ratio together with expressed capital structure determinants such as ROA, Size, tangibility, tax, growth, ownership structure and volatility. The data were analyzed using the Ordinary Least Square (OLS) regression method and the Tobit model. The empirical results showed that as in other countries, leverage in Chinese listed firms increase with firm size and fixed assets and decreases with profitability, non debt tax shields, and growth opportunity managers shareholdings. The study also revealed that state ownership or institutional ownership has no significant impact on capital structure of Chinese companies. However, Chinese firms tend to have much lower long-term debt as compared to those in developed economies.

A study conducted by Naveed Ahmed et.al... (2011) investigates the impact of firm level characteristics on performance of the life insurance sector of Pakistan over the period of seven

years. For this purpose, size, profitability, age, risk, growth and tangibility are selected as explanatory variables while ROA is taken as dependent variable. The results of Ordinary Least Square (OLS) regression analysis revealed that leverage, size and risk are most important determinant of performance of life insurance sector whereas ROA has statistically more of insignificant relationship with, tangibility of assets.

Salawu (2007) examine an empirical an empirical analysis of the capital structure of 50 selected non-financial quoted companies in Nigeria between the period 1990 and 2004. The study investigates the main determinants of the capital structure of the selected quoted firms in Nigeria. The study employed two different analytical techniques namely the descriptive statistics and the inferential statistics (panel data econometrics techniques) in analyzing 47 secondary data obtained from the annual reports of the selected companies and reports of the Nigerian Stock Exchange. The descriptive analysis used inevaluating the selected variables were the mean, mode, median, range and standard deviation. The pooled ordinary least square (OLS) model, Fixed Effects model and Random Effects model were used in the analysis of data. The study also excluded the financial quoted companies. The empirical results show that debt financing for listed companies in Nigeria for the period studied corresponds mainly to a short-term debt nature. Leverage was found to be negatively correlated with profitability. The size of the firms was however found to be positivelycorrelated with total debts, which according to the author, suggests that large firms can better support higher debt ratios than small firms can.

According to the study of VelnampyandNiresh (2012) examines the Relationship between capital structure and profitability of ten (10) listed Srilank banks for the period (2002 - 2009).The results showed that there is a negative association between capital structure and profitability. Furthermore, the results also suggest that 89% of the total assets in banking sector of srilank are represented by debt, confirming the fact that banks are highly geared institutions. The findings are similarfrom the previously conducted studies.

The study conducted by Eriotis et al (2002) investigated the association between debt to equity ratio and entity's profitability. They also discovered that those entities that prefer to finance their investment activities using equity capital are more profitable than firms who finance by using borrowed funds.

The study conducted by Adaramola, Suleiman and Fapetu (2005) aimed at establishing a realistic relationship between the capital structure and corporate performance of selected quoted firms in Nigeria. The study used panel data from fifty quoted firms for the year 2002. The data

arefurther built into three different panels. Panel one comprised of data from both banking and non-banking firms, panel two has data from 25 non-banking firms while panel three has data from 25 banking firms. The study employed the ordinary least square (OLS) regression method of estimation to analyze the variables used i.e. Earnings per share (EPS) on leverage ratio, weighted average cost of capital and business risk. The study revealed that capital structure has no significant impact on the value of non-banking firms as all explanatory variables used in the panel for non-banking firms were not statistically significant from zero. On the other hand, the result showed that the value of the banking firms was positively affected by its capital structure. According to the authors, this result suggests that the concept of optimal capital structure is not applicable to the Nigerian banking institutions.

A study conducted by Pratomo& Ismail(2006) investigating the performance and capital structure of 15 Malaysian Islamic banks in the period(1997 to 2004) found out that the higher leverage or a lower equity capital ratio is associated with higher profit efficiency. Their findings were consistent with the hypothesis which proposes that, a high leverage tends to have an optimal capital structureand therefore it leads to producing a good performance.Siddiqui and shoaib (2011) came up with the same results after analyzing capital structure and performance in Pakistani banks.

According to study conducted by Saeed, (2013) which assessed the impact of capital structure on the performance of banks in Pakistani for the period 2007 to 2011 found a positive relationship between determinants of capital structure and performance of banking industry. The performance was measured by Return on assets (ROA), Returnon equity (ROE) and earnings per share (EPS). Determinants of capital structure included long term debt to capital ratio, short term debt to capital ratio and total debt to capital ratio.

When come to Ethiopia, very few studies are conducted pertaining to capital structure according to the researcher knowledge, such as:

Bayeh(2011) this study is to investigate important firm-level determinants of capital structure on Ethiopian insurance companies. The study employs panel regression model. The results show that growth, profitability and age of the firm were found to have significant influence on Ethiopian insurance companies' capital structure. Liquidity and business risk were also significant for long term debt and total debt ratio respectively. However, among the hypothesized capital structure determinants asset tangibility and size of the firm werefound to

have statistically insignificant contribution on capital structure of Ethiopian insurance companies.

Amanuel(2011) study is examining the determinants of capital structure evidence from manufacturing share companies. The researcher used seven explanatory variables; tangibility, non-tax shields, growth, earning volatility, profitability, age and size of the firm were regressed against the dependent variables of total debt ratio, short term ratio and long term debt ratio. In connection of this, a sample of 12 companies were taken and secondary data was collected from audited financial statements of selected companies for the period of five years (1996- 2002EC). Stratified sampling design was employed and companies were selected based on simple random to represent differentindustry sectors (strata) within manufacturing share companies. Data was thenanalyzed on quantitative basis using multivariate OLS regression.The results show that tangibility, non debt tax shields, earning volatility, profitability, and size of the firm variables are the significant determinants of capital structure of Addis Ababamanufacturing share companies at least one out of the three models for capital structureemployed in the study. While no clear and statistical proved relation are obtained for thevariables growth of the firm and age of the firm in any of the capital structure models.

Yuvarajsambasivam and Abate Gashaw (2013) the study examine the performance of insurance companies in Ethiopia. This paper examined the effects of firm specific factors (age of company, size of company, volume of capital, leverage ratio, liquidity ratio, growth and tangibility of assets) on profitability proxies by Return on Assets. Profitability is dependent variable while age of company, size of company, volume of capital, leverage, liquidity ratio, growth and tangibility of assets are independent variables. The sample in this study includes nine of the listed insurance companies for nine years (2003-2011). Secondary data obtained from the financial statements (Balance sheet and Profit/Loss account) of insurance companies, financial publications of National Bank of Ethiopia are analyzed. Fromthe regression results; growth, leverage, volume of capital, size, and liquidity are identified *as* most important determinant factors of profitability hence growth, size, and volume of capita are positively related. In contrast, liquidity ratio and leverage ratio are negatively but significantly related with profitability. The age of companies and tangibility of assets are notsignificantly related with profitability.

Shibru (2012) who is investigates the relationship between leverage and firm specific (profitability, tangibility, growth, risk, size and liquidity) determinants of capital structure decision, and the theories of capital structure that can explain the capital structure of banks in

Ethiopia. In order to investigate these issues a mixed method research approach (quantitative and qualitative) is utilized, bycombining documentary analysis and in-depth interviews. More specifically, the study uses twelve years (2000 - 2011) data for eight banks in Ethiopia. The findings show that profitability, size, tangibility and liquidity of the banks are important determinants of capital structure of banks in Ethiopia. However, growth and risk of banks are found to have no statistically significant impact on the capital structure of banks in Ethiopia. In addition, the results of the analysis indicate that pecking order theory is relevant theory in Ethiopian banking industry, whereas there are little evidence to support static trade-off theory and the agency cost theory. Therefore, banks should consider profitability, size, liquidity and tangibility when they determine their optimum capital structure.

Those the above researches were focus capital structure determinants on leverage. However, the relationship betweencapital structure and profitability has not been extensively tested in research in Ethiopian insurance companies.Furthermore, in developed and developing countries were conducted thecapital structure and the impact on performance havebeen investigated for many years, but researchers have found different results with different contexts. Accordingly, there is no specific result, which can be generalized on the extent of the relationship between capital structure and firm performance, thus, there is a constant for new research in different context for achieving a more complete understanding for the dynamics of the capital structure and firm performance interplay. Therefore, it is very interesting to see the impactsof capital structure on profitability of Ethiopian insurance companies.

2.6 Conclusion and knowledge gap

The modern capital structure theory was later developed since the publication of capital structure irrelevance framework by Modigliani and Miller, (1958).They argued that a firm couldn't change the value of its outstanding securities by changing the proportions of its capital structure. Modigliani and Miller concluded that in a world without taxes, the value of the firm and also its overall costs of capital wereindependent of its choice of capital structure. A later study in 1963 by M&M concluded that by incorporating corporate tax, the market value of the firm is increased and the overall cost of capital is reduced to the point of interest being tax deductible. Those studies were conducted under different assumptions, which fit into the particularsituation. Trade-off theory, pecking-order theory, agency-theory and some other theories areempirical evidences that challenge Modigliani and Miller' capital structure studies (M &M).There were many empirical researches undertaken by scholars on capital structure choices in the developed nations. One of the classical researches was carried out by Titman and

Wessel's (1988) where they studied the theoretical determinants of capital structure by examining them empirically. However, there were not many research directed towards developing countries that saw the applicability of the theories of capital structure generated from the developed nations. Most researchers concluded that the factors affecting the developed countries also explain the capital structure decisions in the developing nations except for Mayer. Since Mayer uses the aggregate flow of funds data instead of individual firm data, he concluded that the capital structure decisions in the developing nations were different from the developed nations. According to Mayer, two major drawbacks found in most research, which includes poor cross-sectional variation in samples, and sample selection bias.

Besides this, as researcher's knowledge, there is still few study conducted empirically on this specific area in the context of Ethiopia especially in insurance companies. Most of studies conducted in Ethiopia were determinants of capital structure on leverage.The researcher was seen little study that investigates the impact capital structure determinants on the firm performance, particularly in Ethiopian insurance industries which is motivated the researcher to conduct on that area. The study importance emerges from the fact that insurance sector plays a significant role inenhancing the country economy, and providing critical services for people in Ethiopia, thecurrent study will empirically implement a comprehensive analytical framework of the impacts of capital structure determinantson theperformance (profitability) in the context of Ethiopian insurance industry.

In Ethiopia, a few researches have been investigated determinants of capitalstructure in the context ofEthiopian insurance companies. Therefore, the current study will be a base for other studies in the same field, and it will help in adding value to this subject.

Another importance of this study would identified the effect of Leverage, liquidity, Size, tangibility of assets, Growth opportunities and business risk on performance of Ethiopian insurance companies. Finally, the current study has beenidentifying the most determinants of capital structure and its impacts on the performance of Ethiopian insurance industry during the period 2004-2013.

2.7 Overview of the Ethiopian insurance industry's

The emergence of insurance business in Ethiopia was closely linked to expatriates and foreign insurance companies. In addition, expatriates and foreign companies operating in Ethiopia participated actively in the establishment of the first domestic insurance companies.

According to various sources, the emergence of modern insurance in Ethiopia is traced to the Bank of Abyssinia, which was established in 1905 as the first Ethiopian Bank. According to Schaefer (1992:364,368),the bank, which was established under a fifty-year concession granted by Emperor Menelik II(1889-1913) to the national bank of Egypt in march 1905, was inaugurated in February 1906. According to some sources, Haile Michael kumsa (1992:30);society of insurance professional (2004:6); and belaiGiday (1987:100),the bank had been acting as an agent for a foreign insurance company to underwrite fire and marine policies. However, evidence regarding the exact date the bank became an agent to a foreign insurance company, the name of this foreign company and its country of origin, and the nature of fire and marine insurance transactions handled by the bank is lacking and need to be ascertained in the future.

According to Haile Michael kumsa (1992:30), an Austrian called weinsinger came to Ethiopia in 1923 to serve as an agent for a Swiss company called La Baloise fire insurance company. A source indicates that Baloise paid the first fire loss on a warehouse and a shop in 1929.however ,evidence regarding the identity of the policyholder to whomthe claim was paid (an individual or a company and the amount of claim paid is still lacking and hence needs to be ascertained in the future.[12]

2.7.1 Present status and the challenges facing the Ethiopian insurance industry

The total number of insurance companies in Ethiopia was nine (one public and eight private insurance companies) by the end of June 2007, two applications for license to establish new private insurance companies were submitted to the supervisory body in 2007. One of the companies under formation was lion insurance company, which is a sister company of the lion international bank which was established in January 2007 with a paid up capital of birr 108 million. The new lion insurance company submitted application for license to NBE in may 2007 to engage in general insurance business with initial paid up capital of about birr 16 million.

The second insurance company under formation is Ethio-life insurance company in the country remains small compared to some African countries. For example, leaving asideSouth Africa,

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See also MEDIN,30th Anniversary publication of the Ethiopian insurance corporation, January 2006,p. 7 Other sources cited the name of the agent as "Muzinger" (see AyaleBezabeh, insurance:Meaning,Historical Development & Economic significance", paper presented at the EIC principal clients seminar, August 1980;FAIR Guide book,25 years anniversary published by the Federation of Afro-Asian insurers and Reinsurers, September 1989,p,86; and BelaiGiday.currency&banking-Ethiopia,September 1987,p.100.

Nigeria, Egypt and Kenya that relatively have well developed insurance sectors, there are 17 insurance companies in Tanzania and 20 companies in Uganda.

2.2.2 The regulatory framework of the Ethiopian insurance industry

Insurance regulation refers to the legal framework (environment) and statutes within which insurance companies operate in the country. Insurance regulation lays the legal framework for several key functions of insurance business such as licensing, product regulation (policy terms, conditions, provisions, etc), market conduct, financial regulation, etc.

Through both domestic and foreign insurance companies had been undertaking insurance business in Ethiopia prior to 1960,there were no insurance laws put in place until the issuance of the commercial code and the maritime code in 1960.

Moreover, there was no insurance supervisory body despite the increase in the number of domestic insurance companies in the 1960s.In1970, the first insurance proclamation (proclamation No.281/1970) was issued. Afterwards, legal notice No.393/1971 (insurance regulations) was issued in 1971.the issuance of proclamation 281/1970 led to the formation of insurance council and an office of insurance controller, which were then responsible for regulating and supervising the insurance business in the country.

The National Bank of Ethiopia (NBE) was formed in 1963 (under order No,30/1963) when it was found necessary to separate commercial banking and central banking functions. Thus, NBE and the commercial bank of Ethiopia (CBE) were created as two independent entities. CBE took over the commercial banking activities of the former state bank of Ethiopia. In the same year, monetary and banking proclamation (proclamation No, 206/1963) was issued to provide for the regulation of the monetary and banking systems of the country.

Accordingly, NBE, among other things, was given the power the license and supervise banks. NBE started its operation in January 1964 and since the it has remained to be the central bank of Ethiopia and the supervisory body of the banking sector.

In the 1976, the provisional military administrative council (PMAC) issued another monetary and banking proclamation, proclamation No.99/1976. Under the provisions of this proclamation, one of the functions of NBE was to supervise, regulate and control the operations of the banks and other financial institutions. Thus, the bank became responsible for the regulation and supervision of not only banks but other financial institutions as well, which included the insurance industry. Accordingly, following proclamation 99/1976, the bank set-up and organized" insurance inspection division" to discharge its supervisoryresponsibilities. Thus,

it is after the issuance of proclamation No.99/1976 that the national bank of Ethiopia started supervising the insurance sector.

Following the downfall of the Marxist Regime in 1991, the transitional Government of Ethiopia (TGE) issued in 1994 proclamation No, 83/1994-monetary and banking proclamation-(repealing the earlier monetary and banking proclamation,99/1976) to reorganize the bank according to the market- based economic policy. Consequently, the powers and duties of the bank, as stated in proclamation No, 83/1994, including the following:

- License, supervise and regulate banks, insurances and other financial institutions.
- Promote and encourage the dissemination of banking and insurance services throughout the country.
- Prepare periodic economic studies, together with forecasts of the balances of payments, money supply, prices and other relevant statistical indicators of the formulation and determination by the bank of monetary, saving and exchange policies.
- Make short and long term refinancing facilities available to banks and [3]their financial institution.

[3]HailuZeleke, (2007), insurance in Ethiopia historical development, present status and future challenges.

Chapter Three

3 Research Methodology

This Chapter discusses the methodology that provides a detailed direction about the methods that the author uses to conduct the research. This is to enable good understanding of what methodology is all about. Jankowicz (1991), defines methodology in respect to research as 'the analysis of, and rational for, the particular method or methods used in general". Given the above definition, we can simply say methodology of the study is all about the procedures employed in carrying out the research. This chapter explains the research design, source and methods of data collection, methods of data analysis, model specification and definition variable and measurement.

3.1 Research design

Research design is the program that guides the researchers in the process of collecting, analyzing and interpreting the data. Therefore, the nature of problem and objective of any study usually determine the type of research design adopted by researcher. A choice of research design reflects the priority of a researcher about the dimensions of the research process and methods. The objectives of this research were to investigate the determinants capital structure and its impacts onthe performanceof Ethiopian insurance companies. To analyze in this study, the researcher adopted descriptive research method analysis.

The purpose of this paper is to determine the relationshipbetween determinants capital structure factors as independent variablesand performance (ROA) as dependent variable. Therefore, the quantitative research method is the well suited method for this study. This study aims to develop hypothesis and theoretical framework, which can only be examined by quantitative measures. The other reason for selecting this method was the support of numerous literatures on the relevant studies, where they employ quantitative methods to investigate their research problems and verify their hypothesis.

3.2 Sources data

According to Ghauri and Grönhaug, (2005), "*research design provides a plan or a framework for data collection and its analysis, which contains the research method and the priorities of the researcher*".The data for this study was gathered from the audited annual financial report published by the listed nine (9) insurance companies. The annual data for the all listed companies during 2004 to 2013 are used in order to assess the determinants capital structure and its impact on theperformance of Ethiopian insurance companies. Besides this other sources like

annual report, magazines, brochures, journals, newspapers, websites, etc. have also been chosen whenever found necessary. This paper is based on secondary data collection.The sources of data for this study are Balance sheets and Income Statements of companies over 10 years period from 2004 still 2013, which are mainly extracted from National Bank of Ethiopia, which can provide comprehensive database for all insurance companies.

3.3 Study population and sampling technique

The population of this study consist all Ethiopian insurance companies. Currently, seventeen insurance companies were working in Ethiopia and the researcher believe that, for meaningful analysis, there was no need to sample from the seventeen insurance companies as they are already few in number to collect information over the period of 2004- 2013. The length of time in this study was10 years from 2004-2013 due to the researcher intention to provide the reliableand most up-to-date result. However, the remaining insurance companies did not have the required period information. Due to this reason, the year service below 10 years is not included in sample frame to make panel data model structured.

Therefore, those insurance companies, which were established after 2005 and started to provide financial statement in the succeeding fiscal year were not included in this study because this study incorporated only insurances that have financial statements for the year, 2004, and onwards.Therefore, only nine insurance companies information were used in this study to examine the impacts of capital structure on performance of Ethiopian insurance companies.

No	**Name of the insurance company**	**Date of Establishments**
1	Ethiopian insurance company	1975
2	National insurance company	1994
3	Awash insurance company	1994
4	Nile insurance company	1995
5	Africa insurance company	1995
6	Nyala insurance company	1995
7	Global insurance company	1997
8	The united insurance company	1997
9	Nib insurance company	2002

Table 3.1 sample of Ethiopian insurance companies

3.4 Method of data analysis and Presentation

Panel data is the combinations of cross-sectional and times series data. It is common in economics since it provides massive source of information about economy. Panel data is also called pooled data, micro panel data, longitudinal data, event history analysis and cohort analysis (Gujarati, 2003).Analysis of panel data is the subject of the one of most active bodies in econometrics. Besides, other benefits of panel data, researchers have been able to use time series and cross-sectional data to examine issues that could not be studied in either time series or cross-sectional settings alone (Greene, 2007).According to Baltagi (2005), by combining time-series of cross section observations, panel data give more informative data, more variability; less collinearity among the variables and more efficiency.

After the data were collect, the researcher to used Stata version 12 software to analyze the raw data. In this study the researcher employed like, descriptive statics,the Pearson correlation matrix, classical linear assumption and the regression analysis.

3.5 Model Specification

In the first relationship, leveragelevel represents as dependent variable, and the determinants of capital structure are the independent variables. Namely, growth opportunities, firm's size, firm's risk, liquidity and business risk.The secondstudy implies six independent variables to identify what were determinant capitalstructure and its impacton firm performance (ROA) that includes firm leverage, growth, firm's size,tangibility of fixed assets,liquidity and business risk as independent variables and performance (ROA) the firm as dependent variable.

The model is specified on an empirical framework using the determinants mentioned for this study to investigate the impacts capital structure on performance of Ethiopian insurance companies. The researcher base models take the following form:

$$\mathbf{Yit = \alpha + \beta Xit + \mu it}$$

Where:

Yit - is dependent variable.

α - is the intercept (constant variable).

Xit- is independent variable.

μit- are the error terms.

i - The number of firms and

t - The number of time period

Model 1

ROA = β0 - β1LEVit + β2 GRit+ β3 SIZE it+ β5 TANGit+β6LQit + β4Brit+eit.

Model 2

LVit = β0 + β1 GROWTH it + β2SIZEit + β3TANGit + β4 LQit + β5 Brit + εit

Where:

ROA - Return on Asset (performance of the firm)

β0 - Constant coefficient

β1 – β6 = Regression coefficients for measuring independent variables

LV = Firm Leverage

GR = growth opportunities

Size = firm size

Tang = tangibility of fixed asset

LQ = liquidity of the firm

Br = business risk .

Uit = Error component showing unobserved factor

Error terms are assumed to have these properties:

E (ui) =0 (Exogeneity of independent variables)

Var (ui) = 6^2, for all i =1... n, (Homoskedasticity and non autocorrelation)

Cov (ui, uj) =0, for all i # j (Homoskedasticity andnon autocorrelation)

Error terms are assumed to have normal distribution with a mean of 0 (zero) and variance of 6^2. The mean of each ui, conditioned of all observations X, is 0 (zero).The disturbance is assumed to have a conditional expected value of 0 (zero) at every observation. This assumption (Exogeneity of independent variables) states that no observations of Xi convey information about the expected value of the disturbance. In addition, these error terms isassumed independent.

Homoskedasticity and non-autocorrelation assumption states that each disturbance ui, has the same finite variance 6^2 and is uncorrelated with every other disturbance uj.

Cov(ui, uj,) = 0 For i ≠ j (Greene 2007).

Most panel data studies use a one-way error model for disturbances with:

Uit=μi +vit

Where:-

μi = Unobserved individual specific effect. μi is not time variant and accounts for any individual specific effect that is not included in the regression.

Vit: -Remainder disturbance; it varies with individual and time and is considered the usual disturbance in the regression.

The linear model in panel data could be identified as in the following relationship:

$Yit = \beta it\ xit + uit, \quad i=1 \ldots\ldots, N; t=1 \ldots T$

The coefficient parameter βit in, the previous relationship reflects the effects of Xit in period t for the unit i. Ideally, many empirical studies assume that the βit is constant for all units and periods, except the intercept term.

$Yit = \alpha + \beta it + uit \quad ; i=1\ldots\ldots, N; t=1 \ldots T$

The relationship above shows that the intercept is constant for all units and periods.

3.5 Definition of variable and measurements

The aim of this thesis was to empirically investigate the determinants of capital structure and its impacton the performance Ethiopian insurance companies during the period 2004 - 2013. Since, the researcher wants to find relationships between determinants capital structure and it'simpact on the performance of the insurance companies of the firms, the best choice is to do regression analysis. Therefore, the researcher divides the variables into two groups, which are dependent and independent of the variable.

According to researcher research question, and objective, researcher decided that measurements of firm performance (ROA)are dependent variables; firm's leverage, growth opportunities, size of the firm, tangibility of fixed asset, liquidity and business risk are independent variables.

3.5.1 Dependent Variables

The first hypothesis describes the determinants of capital structure in Ethiopian insurance companies. Leverage (LEV) was as dependent variable while growth opportunities, size,tangibility, liquidity and business risk are as independent variables.

$$Lev = \frac{\text{Total liabilities}}{\text{Total assets}}$$

To see the impacts of capital structure determinants on the firm performance the researcher uses one accounting based measurements of financial performance as dependent variables, which is Return on Asset (ROA) to determine the firm specific factors on profitability of the firm.

''ROA is good internal management ratio because it measures profit against the entire assets a division uses to make those earnings. Due this reason, it a way to evaluate the division'sof profitability and effectiveness. It also more appropriate here because division managers seldom

get involved in raising money or in deciding the mix between debt and equity"(Kristy & Susan, 1984).

ROA provides good information about a firm's financial performance in the terms of using assets to create income. It indicates the percentage of profit that a corporation earns in relation to its overall resources. Consequently, it is considered as a measure of efficiency. A firm with high ROA means that it is good at translating assets into profits. So, it is also called a profitability or productivity ratio (Casteuble, 1997).

This is also the most commonly used performance measure proxies. These accounting measures represent the financial ratios from balance sheets and income statements. In the literature, a number of researchers used these accounting based measurements of financial performance such as Majumdar and Chhibber (1999), Abor (2005), Demstz and Lehn (1985), Gorton and Rosen (1995), Mehran (1995), Ang, Cole and Line (2000). Furthermore, the researcher chose one proxy for profitability in this thesis because the researcher wants to investigate whether the independent variables explained the profitability of the firm measures at the same level or not.

$$ROA = \frac{\text{Net profit after tax}}{\text{Total assets}}$$

This shows how profitable a company's assets are in generating revenue.

3.5.2 Independent Variables

The purpose of this study is to examine the impact of capital structure on the performance of Ethiopian insurance industry the following independent variables are discussed in this section.

Firm's leverage: - Firm leverage defined as long term-solvency ratio that address the firm's long run ability to meet its obligation (Hillier et.al, 2010). The variable considers the main variable to express the capital structure which measure by dividing the total liabilities to the of total assets (king and santor, 2008), Ghosh, 2007), and Weill (2007).

Growth opportunities

Many studies proved that growth opportunities play important role in determining the capital structure and therefore effect on firm profitability. Myer(1977) discussed that the role of growth opportunity in effect of the nature and the composition of capital structure, whichhigh growth opportunities firms most likely will suffer from appearing the debt problem and this will lead to arise risks accompanying with debt of which the firm gives up the profitable investment opportunities. In addition, the firm will be relying on the equity sources more than debt a source

to face that's risks and to finance expectedgrowth opportunities, thus it will reflect positively on firm performance (Hovakimian, Opler and Titman, 2001).

It is measured assets growth is used by many scholars in their studies and for the purpose of this research; it is calculated by the following formula.

$$\text{Assets growth} = \frac{(\text{Assets of current year} - \text{Assets of previous year})}{\text{Assets of previous year}}$$

Firm size: It is control variable which measure by natural logarithm of total assets (Onaolapo and Kajola(2010) and King and Santor(2008)). In most previous studies, firm size is expressed by the logarithm of total assets. This indicator is the most suitable measure of a firm's size. Total assets aredefined as the sum of net fixed assets, total intangibles, total investments, net current assets, and other assets. ('Titman &Wessels 1988), state that there is a high correlation between the logarithm of total assets and the logarithm of sales (about 0.98), and therefore choosing any of them is a substitute to the other.

Tangible assets: It considers independent variable and measure by dividing the total fixed assets to total assets Weill (2007) and Margrates and Psillaki(2010).Most previous empirical studies use a ratio of fixed assets to total assets to measure the tangibility of a firm's assets. Tangibility assets are considered as collateral and guarantee for creditors when the firm needs external financing. Tangibility is definedas total fixed assets to total assets. Gross fixed assets are defined as the sum of total lands and buildings, plant machinery and equipment, and other fixed assets (Fattouh, Scaramozzino, & Harris 2005).

Liquidity: - Liquidity (short-term solvency) is usually defined as the ability of a firm to pay its obligations when they become due Laitinen 2002. It is vital for the firm's survival to hold liquid resources to meet its obligations.In this research, the ratio of current assets to current liabilities, which is the most suitable measure, willbe uses to reflect the firm's liquidity. It is a widely used ratio to reflect the firm's solvency.Ozkan 2001 for UK firms and Panno 2003 for UK and Italian firms use this ratio to assess the firm's liquidity.

Business risk

Standard deviation operating income is considered the strongest factor in measuring business risk since it determines the ability of the firm to meet its interest charges (Brails ford, Oliver and Pua,2002) (Ferris & Jones 1979). Also, it is not directly affected by the firm's debt level (Titman & Wessel's 1988). It can be measured by the standard deviation of operating income before interest and taxes divided by total assets. Other studies using this measure include Wald

(1999),Kim&Limpaphayom,(1998) and Allen&Mizunot,(1989) for japans firms. Also, in this study business risk is measuredstandard deviation of operating income before interest and taxes divided by total assets.

Summary of variable and measurements

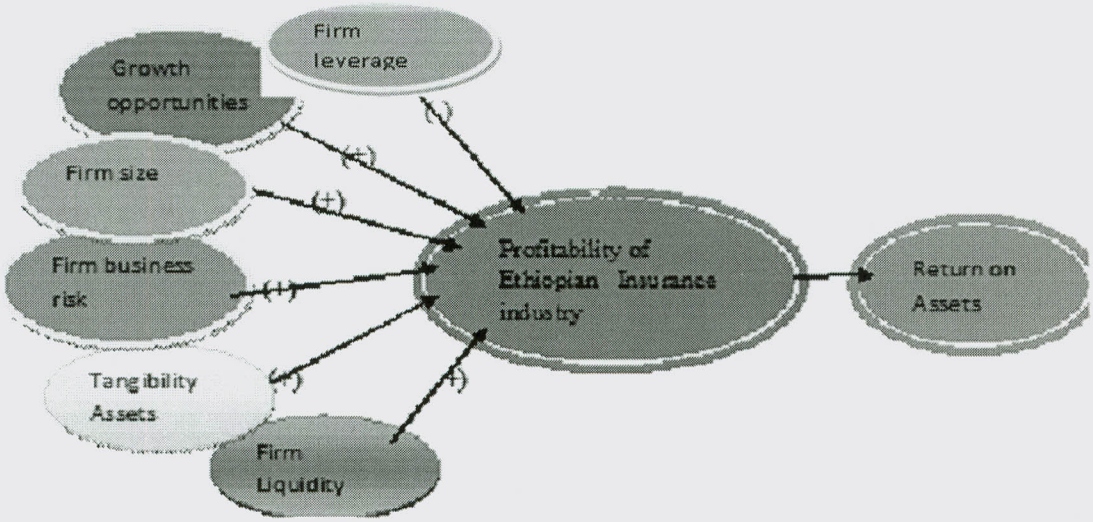
The description of each variable and their expected signs are given below in the following tables.

Variables	**Variable Measurements**	**Some References**	**Expected Signs**
Firm's leverage	Total liabilities / Total assets	Kyereboah-Coleman (2007), Abor (2005), Titman and Wessels (1988), king and santor,2008	(-)
Growth opportunities	Change in the of total assets	(Degryse, Goeij, &Kappert, 2010), Hovakimian, Opler and Titman, 2001	(+)
Business risk	Standard deviation of operating income/Total Asset	Wald (1999),Kim &Limpaphayom,(1998)and Allen&Mizunot,(1989)	(+)
Size	Natural logarithm of total assets	Holmes, 2003; Panno, 2003; Deesomsak 2004; King and Santor (2008)).	(+)
Tangibility of fixed asset	Total fixed assets / Total assets	Titman &Wessels 1988; Gaud *et al.*,2005, Fattouh, Scaramozzino, & Harris 2005	(+)
Liquidity	Current assets / Current liabilities	Kila and Mansoor (2009), Ozkan 2001, Laitinen 200	(+)
Dependent variable	**Measurement**		
Firm's leverage	Total liabilities / Total assets		
Return on Asset	Profit after tax / Total assets	(Bistrova, Lace, &Peleckienė, 2011 Mehran (1995), Ang, Cole and Line (2000	

Table 3.2 Summary of variable and measurements

3.7 Conceptual Frame Work

After careful study of literature review, the following conceptual model isformulated to illustrate the impacts of capital structure and its impact on the performance firmfigure below shows.



Compiled by researcher

The above diagram shows the firm determinants of capital structure (independent variable) and performance of the firm (ROA) as dependent variable. The researcher thinking the independent variable that may have significant impact on performance of the firm namely, Firm Leverage, growth opportunity, size, tangibility of assets , liquidity and business risk.Return on Assets (ROA) measures of firm performance. Although there is no unique measurement of firm performance in the literature, ROA was chosen because it is important accounting – based and widely accepted measures of financial performance. ROA can also be viewed as a measure of management's efficiency in utilizing all the assets under its control, regardless of source of financing.

Chapter Four

4.Data Analysis and Interpretation

This section presents researcher main findings of the determinants of capital structure andits impact on the performance in the context of Ethiopian insurance industry as well as this chapter analysis and discussion of the results in comparison to the theories and earlier empirical results discussed and presented in previous chapters by using specification and misspecifications classical linear assumption and model specifications. The stated hypotheses will be thoroughly addressed in this section as to gain insight into the different aspects of capital structure and firm performance (profitability).The researcher start by looking at the main firm specific factors over study period and investigates by the determinants of capital structure as independent variables and the performance level as a dependent variable. It also presents the results of panel data regression analysis results,data taken from balance sheets and income statements in Ethiopian insurance industry.

This study used Return on asset (ROA) as dependent variable for measuring firm's performance while independent variables includes firm leverage, growth, firm size, tangibility of fixed assets, liquidity and business risk.

In order to achieve the research question and objectives of the study,the following hypotheses are developed.

H01: Leverage has a negative impact on performance of Ethiopian insurance companies.

H02: Growth has a positive impact on performance of Ethiopian insurance companies.

H03: Firm's size has a positive impact on performance of Ethiopian insurance companies.

H04: A Tangibility asset has a positive relationship with performance of Ethiopian insurance companies.

H05: Liquidity has a positive relationship with performance of Ethiopian insurance companies.

H06: There isbeing a positive relationship between business risk and performance of Ethiopian insurance companies.

4.1 Specificationand misspecification classical linear assumption

4.1.1 Descriptive statistics

The researcher used Stataversion 12, software for the analysis method in this study. The dependent variable was performance (ROA) of the firm while the independent variables includes; Firm leverage, Growth opportunities, firm size, tangibility of assets, liquidity and business risk during the period 2004-2013 for Ethiopian insurance companies. Descriptive statistics showing mean, standard deviation, minimum and maximum values of Ethiopian insurance companies indicated below.

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	90	.0783043	.123769	-.10886	.921629
Lev	90	.520138	.1843834	.02007	.902047
Grow	90	.352805	1.418099	-.9800652	13.16158
Size	90	18.95876	1.090104	16.30014	21.22304
Ta	90	.1410642	.0998923	.000258	.465749
Lq	90	2.633622	1.829073	.103773	11.24678
Br	90	.1602669	.183787	.019253	1.48693

Table 4.1*descriptive statistics*

**** Source:*** *computed from financial statement of Ethiopian insurance companies*

As presented in table 4.1, the average value of the performance ratios measured by ROA, sample Ethiopian insurance industry is 7.8 percent (0.0783043), this implies sample Ethiopian insurance companies on average earned a net income of 7.8 percent of total asset with a maximum and minimum value of 0.921629 and -.10886. The standard deviation is 12.4 percent from theaverage value, which reflects the presence of moderate variation among across the sampled insurance companies.

On the other hand, the average value of the sample insurance companies leverage is 52 percent (mean=0.520138) which measured by total debt over total asset this reflects this companies operates with significant level of leverage and the maximum and minimum value of 9 and 2 percent respectively. It deviates by 18.4 percent from the mean value of the sample of Ethiopian insurance companies. The growth opportunities of the sample Ethiopian insurance companies on average 35.2 percent (mean=0.352805) as measured by annual change of total asset. The maximum value of annualchange of total asset among the sample Ethiopian insurance companies is 13.16158 maximum and the minimum value is -.9800652.

It shows a standard deviation of 1.418099 from the mean value.

The table 4.1 above shows that the average size of the sample Ethiopian insurance companies 191 percent (mean =18.95876) which implies control variable measured by natural log of total asset which indicates very important for a company to be large in order to have superior performance. Amaximum and a minimum value of size is 21.22304 and 16.30014 respectively. The standard deviation indicates that for the sample of Ethiopian insurance companies1.090104 suggests that there is moderate dispersion in the mean value of sample Ethiopian insurance companies. The amount of mean and standard deviation of tangibility of asset of Ethiopian insurance companies has the value of 0.1410642 and .0998923 respectively. This implies the sample period of Ethiopian insurance companies generate revenue from fixed asset 14.1% while the variation among across the sampled insurance companies low. The mean value of liquidity is 2.633622 which indicate the amount of cash generated from current assets is 2.633622 with maximum and minimum value 11.24678 and103773 respectively. It deviates by 1.829073 from the mean value of the sample of across Ethiopian insurance companies. The amount of mean and standard deviation of business risk is 0.1602669 and 0.183787 respectively with maximum value 1.48693 and minimum value 0.019253 of Ethiopian insurance companies. This implies low deviation from the mean value.

4.1.2 Pearson correlation matrix:

Correlation test is common carrying out in research that relate with regression was determine whether collinearity exist among the independent variable employed in the work or not, because it is capable of distorting the true picture of the relationship of dependent variable and independent variable.The most widely-used type of correlation coefficient is Pearson r, also called linear or product moment correlation.

According to Brooks (2008), if it is stated that y and x are correlated, it means that y and x are being treated in completely symmetrical way. Thus, it is not implied that changes in x cause changes in y or indeed that changes in y cause change in x rather, it is simply stated that there is evidence for a linear relationship between the two variables, and that movements in the two are on average related to an extent given by the correlation coefficient. Correlation coefficient between two variables ranges from +1, (i.e. perfect positive relationship) to (i.e. perfect negative relationship).It also defined as dependence of one variable upon another. Based on the Pearson correlation independent variables; firm leverage, growth opportunities, size of the firm, tangibility of fixed assets, liquidity of the firm as independent variable while the performance as measured Return on asset(ROA) as dependent variable. The significance calculated for each

for correlation is a primary source of information about the reliability of the correlation. Therefore, the table below presents the correlations among the variables, which data taken from balance sheet and income statement of Ethiopian insurance companies during the period 2004-2013.

Pearson correlation matrix for insurance company

	ROA	LV	Grow	SIZE	Ta	Lq	Br
ROA	1.0000						
LV	-0.2033	1.0000					
Grow	0.0012	-0.0205	1.0000				
Size	0.2467	-0.0889	-0.4108	1.0000			
Ta	-0.1616	0.0428	0.0442	-0.1428	1.0000		
Lq	-0.1093	0.2134	0.0964	-0.4047	0.0125	1.0000	
Br	0.3373	-0.1060	0.1905	-0.3312	-0.0939	0.2550	1.0000

Table 4.2:correlation matrix for insurance company Pearson

***Source:** Financial statement of sampled Ethiopian insurance industry and own computation.*

ROA was negatively correlated with leverage, tangibility of asset and liquidity for the coefficient estimates of correlation -0.2033, -0.1616 and -0.1093 respectivelyWhilegrow opportunities, size and business risk having positive correlation with the firm's performance (ROA) of Ethiopian insurance companies for the coefficient, 0.0012,0.2467 and 0.3373 respectively. As we can see from the table 4.2, when leverage, tangibility of asset and liquidity are increases, the performance of Ethiopian insurance industry decreases while increase in growth opportunities, size and business risk were the performance of the sampled Ethiopian insurance industry also increase.

The highest correlation is indicated between business risk and Return on asset as 0.34 approximately according to above table 4.2.

4.1.3 Unit root test

The study employed a panel research approach in testing the two hypotheses. The approach combines the attributes of time series and cross-sectional. Therefore,the researcher firstly tested the data and variables to a unit root test. Therefore, this is necessary in order to ascertain from the beginning, the researcher is dealing the nature of data and secondly, to know whether or not the result and invariably the findings can hold in the long run.

Specifically, Augmented Dickey Fuller (ADF) unit root testing was conducted for this purpose through Stata version 12, software.Given the test results, it indicates that all the variables

werestationary at level (**See the appendix table 4. 3**). Also, they are significant at 1%.Therefore,the results indicatethat, whatever outcome the researcher gets from the hypotheses testing, the findings can hold in a long-run perspective.

4.1.4 Test normality Data

The most fundamental assumption in data analysis is normality, which considers the benchmark for statistical methods. Normality refers to the shape of data distribution for an individual metric variable. Normality is tested using graphical and statistical tests. The simplest test for normality is a visual check of the histogram that compares the observed data values with distribution approximating the distribution. This method is problematic for small's samples where the construction of the histogram can disfigure the visual portrayal to such an extent that the analysis is useless.The main statistical tests for normality which are available in most of the statistical programs are Shapiro-Wilk test (Hair J.et al.2006). A non –significant result (P-value of more than 0.05) indicates that the distribution is normal. Mean while, a significant result (P-value of less than 0.05) indicates that the distribution violates the assumption of normality which is common in large samples (Pallant, 2005). In this paper the normality test data result shows the P-value most variable less than 0.05 (**see appendix table4.4**). Therefore, this model is violates by normal distributions. This model used large sample size and, therefore, there is no serious departures from the assumption of normality of the error terms were detected.

4.1.5 Heteroskedasticity Test:

It states that the variance of the error term is constant in regression results (Gujrati, 2004).

$E[\epsilon/ X] = 0$

Heteroskedasticity is to be present in a model if the variances of the error- term of the different observation are not the same ((Gujrati, 2004). The Breusch-pagan test is considered to identify any linear form ofheteroskedasticity. This test is an option built into stata. This paper analyze Breusch-pagan test to check if there is any problem ofheteroskedasticity.

The Breusch-pagan tests of the null hypothesis that the error variances are all equal versus the alternative that the error variance are a multiplicative function of one or more variables.

The paper made the following hypothesis:

H0:Heteroskedasticity is not present.

H1:Heteroskedasticity is present

After heteroskedasticity test, the result is found P-value is 0.5489(**see Appendix table4: 5)** which is more than 5% of level of significance. As a result the researcher does not reject

heteroskedasticity. Therefore, this model does not face anyheteroskedasticityproblem, because the correlation coefficients between independent variable are fairly small.

4.1.6Testing for multicollinearity

Multicollinearity exists when the independent variables are highly correlated. Usually the multicollinearity is exist if the correlation between two independent variables is more than 0.9(r=0.9 or above) (pallant, 2005).As it appears in the correlation matrix table below, there is no such high correlation between independent variables.Variance inflation factor VIF is widely used method to test for multicollinearity; it measures the increasing in the variance of a coefficient as result of collinearity. Also tolerance (TOL) is a commonly used measure of collinearity and multicollinearity. It is represented by 1-R*, where R* is the coefficient of the determination for the prediction of a variable by other independent variables. As a tolerance value smaller, the variable is more highly predicted by other independent variables.

Variable inflation factor is directly related to the tolerance value (VIF=1/TOL). More than10 for VIF values or TOL less than 10 indicates high degrees of collinearity or multicollinearity among the independent variables (Hair j.,Babin B, Anderson and Talham 2006).

Having guidance from the correlation matrix, variables are tested for multicollinearity using stata software for each relationship testing the values of variance inflation factor (VIF) and tolerance (TOL).As result, VIF and tolerance results are acceptable and prove that the data is free of multicollinearity.

Variable	VIF	1/VIF
size	1.33	0.749717
lq	1.33	0.753135
br	1.21	0.826004
lv	1.09	0.920186
ta	1.06	0.945698
gr	1.05	0.955023
Mean VIF	1.18	

Table4.6

***source**: *Financial statement of sampled Ethiopian insurance industry and own computation.*

As we can see from the above table: 6all VIF and TOL are acceptable and prove that there is no multicollinearity problem.

4.2 Random Effect versus Fixed Effect Models

The question which model is more appropriate FEM or REM is very difficult to answer. According to Judge et al, (1980) recommend a few suggestions which are related to the context of the data, and its environment beside the correlation between error component and regressions. If it is assumed to be uncorrelated, random effects may be appropriate, whereas if correlated, fixed effects are unbiased and then are more appropriate.

The Hausman (1978) specification test can be used to determine the appropriate method i.e. fixed or random effects models. However, econometricians seem to be united generally that the random effects model is more appropriate to be used if individual are drawn randomly from a large population. By contrast, the FEM is more appropriate in the case of focusing on specific sets of the firms.

An important test for model specifications is to decide whether the FEM or REM is more appropriate Maddala, (2001). The null hypothesis is that the residuals in the random effects (REM) are uncorrelated with the regressions and that the model is correctly specified. Consequently, the estimated coefficients by the REM or FEM should be statically equal. Otherwise, the REM estimatoris inconsistent. If the null hypothesis is rejected, then the units specific effects are correlated with the Regressors or the models are not correctly specified (Baltagi 2005). In other words, the null hypothesis states that individual effects are not correlated with the other Regressors in the model. If correlated (Ho is rejected) a randomeffects model produces biased estimators, so the fixed effects model is preferred (Hun Myoung park 2005).

To put it more simply, the idea behind this test is that if Ui is uncorrelated with xit then there is no difference between estimates from both fixed effects (within the group's estimator) or random effects (GLS estimators) models.

Ho:ui are not correlated with xit

H1: ui are correlated with xit

Under the null hypothesis, random effects would be consistent and efficient (i.e.Ho is true), but under the alternative hypothesis, random effects would be inconsistent. The FEM is consistent whether the null hypothesis is true or not, this means if the hausman test is significant then we accept the alternative hypothesis that there is a correlation between individual effects and xit(Baltagi, 2005).

The Hausman test tests the null hypothesis that the coefficients which are estimated by the efficient random effects estimator are the same as the ones estimated by the consistent fixed

effects estimator. Therefore, this includes insignificant P-value, Prob>chi2 larger than 0.05, then it is more suitable to use random effects. However, in this study have a significant P-value, then researcher should use fixed effects models.

-.1673747	-.0884367	-.078938	.0334373
.0038993	.002613	.0012863	.0008566
.0886285	.0464443	.0421841	.0157781
-.3100963	-.1414094	-.1686869	.0288326
-.0160876	-.0054207	-.0106668	.0094598
.3995292	.3139315	.0855977	.0238584

Table 4. 7Hausman specification test

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2 (6) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 62.20

Prob>chi2 = 0.0000

(V_b-V_B is not positive definite)

According to above table shows Hausman specification test the model has the value of p= 0.0000 for the regression model of dependent and independent variables. **This shows fixed effect** model is more appropriate, because the null hypothesis is not accepted.Therefore, this includes insignificant P-value, Prob>chi2 larger than 0.05, then it is more suitable to use random effects.. However, if we have a significant P-value, then we should use fixed effects models.

4.3Regression result

Regression analysis is a statistical technique used to test the relationship between one dependent variable and one or several independent (predictor) variables. Overall, the result derived from this study show signs that are consistent with theoretical predictions. The regression proved to be statistically significant at 0.05 percent for each of the performance ratios measured by Return on asset used in this model.

The researcher accepts the alternative hypothesis for all relationships which indicates that there is a relationship between the individual effects and regressions (xit). In this case, the Haussman specification test confirms the superiority of fixed effect models over the random effects model as we can see above table 4.7.

This regression starts with discussion and testing of the first part hypotheses denoted by (H0); thisrepresents the relationship between determinants of capital structure and leverage level.

gr	.2789283	.0187919	14.84	0.000	.241501	.3163556
size	.1477863	.0471603	3.13	0.002	.0538584	.2417141
ta	.148796	.339127	3.39	0.001	.4706692	.826923
lq	-.036638	.024525	-1.49	0.139	-.0854837	.0122078
br	.5063508	.2248668	2.25	0.027	.0584898	.9542118
_cons	-2.265744	.9262361	-2.45	0.017	-4.110503	-.4209852
sigma_u	.22067866					
sigma_e	.20678328					
rho	.53247239	fraction of variance due to u_i)				
R= 0.8902						

Table 4.8 Regression Result: Fixed effect regression model

*Note * Significant at 1% level, ** significant at 5% level.*

Source: financial statements of Ethiopian insurance industry.

$LVit = -\beta 0 + \beta 1\ GROWTH\ it + \beta 2 SIZEit + \beta 3 TANGit - \beta 4\ LQit + \beta 5\ Brit + \varepsilon it$

$LVit = -2.266 + 0.279\ GROWTH\ it + 0.148\ SIZEit + 0.149\ TANGit - 0.0367\ LQit + 0.056\ Brit + \varepsilon it.$

(.9262361) (.0187919) (.0471603) (.339127) (.024525)(.2248668)

The panel fixed effect estimation regression result shows a significant positive relationship between growth opportunity of the insurance companies and their leverage ratio. This study was consistent with this finding Ronny and Clairette (2003), Paulo and Zelia (2007).

As we can see from table 4.8 Size is positively associated with leverage. Larger firms are usually more diversified and have more stable cash flow. So the probability of bankruptcy is smaller for large firms compared with smaller ones. Furthermore, many studies suggest that

large firms prefer to issue long-term debt while small firms choose short-term debt to finance their projects. And because of the advantage of economies of scale and bargaining power with creditors, large firms bear lowercosts in issuing debt and equity compared with small firms, Michaela's et al. (1999).

Tangibility of asset was panel data results for the analysis method of fixed effects model results show a negative and significant impact on profitability of Ethiopian insurance industry.

The effect of tangibility on capital structure according to both trade off theory and pecking order theory suggests a positive relationship between tangibility and leverage. The result of our findings also indicates a positive significant relationship between tangibility of assets and leverage of Ethiopian listed insurance firms. This is line with the findings of Murindet (2003) and Suto (2003) who find a positively significant relationship for Malaysian firms.

Fixed effects models reveal a negative and insignificant relationship between liquidity and a firm's performance (ROA).Liquidity As suggested by pecking-order theory, firms prefers internal financing to external financing. Therefore, firms arelikely to create liquid reserves from retained earnings. If liquid assets are sufficient to finance the investments, firmswill have no need to raise external funds.

The regression result of this study shows that there is significant positive relationship between business risk and leverage ratio of insurance companies.

If a firm's operating risk is more volatile than the firm's earnings stream, the chance of the firm defaulting and being exposed to bankruptcy and agency costs is high. Other studies suggest a positive relationship Jordan et al., 1998; Michaelaset al.,(1999) and Esperancaet al., (2003) Found a positive relationship between firm risk and both long-term and short-term debt.

Thus, growth, size, tangibility and business risk are determinants of capital structure of the Ethiopian insurance industry.

This section tests the proposed hypotheses for the relationship between determinants of capital structure as independent variables and a firm's performance (ROA) as dependent variable.

Relationship firm determinants of capital structure and firm performance

ROA	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Lev	-.1673747	.0758574	-2.21	0.030*	-.3184903	-.016259
Grow	.0038993	.0082162	0.47	0.636	-.0124683	.0202669
Size	.0886285	.0211508	4.19	0.000**	.0464938	.1307631
Tan	-.3100963	.1231772	-2.52	0.014*	-.5554778	-.0647148
Lq	-.0160876	.0126096	-1.28	0.206	-.0412072	.0090321
Br	.3995292	.0728456	5.48	0.000**	.2544132	.5446451
_cons	-1.494222	.4170297	-3.58	0.001**	-2.324988	-.6634563
Sigma u	.09529538					
Sigma e	.0989344					
rho	.48127097	(fraction of variance due to u_i)				
R^2	0.3720					
No.obs	90					

Table 4.9 Regression Result: Fixed effect regression model

*Note * Significantat 1% level, ** significant at 5% level.*

***source: Researcher Data**

ROA = β0 -β1 LEVit + β2 GRit+ β3 SIZEit+β4Brit + β5 TANGit+β6LQit + eit.

ROA=-1.494-0.167LVit+0.0039Grit+0.089SIZE it-0.31TANGit-0.016LQit+0.40Briteit.

(0.759) (0.0082) (0.211) (0.073) (0.0123) (0.126)

R2 from the table 4.8, 37.2% variations in the dependent variable can be accounted for by the independent variables. This means 37.2% of variations in the performance of selected Ethiopian insurance companies are explained by independent variable. This showed that the independent variable values have at least 37% significant influence on performance of the Ethiopian insurance companies. This also indicates that there are other variables that influence the variations in the level of performance of the firms.

ROA=-1.494-0.167LVit+0.0039Grit+0.089SIZE it -0.31TANGit-0.016LQit+0.40Briteit.

This model can be explained as: an increase in leverage by 1% can reduce the performance ratio of Ethiopian insurance companies by 16.7%. Similarly,tangibility of asset and liquidity can reduce the performance ratios of Ethiopian insurance companies by 31% and 1.6% respectively. On the other hand, an increase growth opportunity, size of the firm and business risk by 1% will respectively leads to the performance ratio increased by 0.4%, 8.9% and 40%.

As presented in table 4.8 hypothesis formulated for this studyresults from fixed effects regression models as follows; it indicates that firm leverage was significant at 5% (P>|t|=0.030) level in Ethiopian insurance companies and showing negative impact with firm performance and accepts the 1st hypothesis. It indicates that performance ofEthiopian insurance companies was significantly influenced by firm leverage. Growth opportunities was insignificant(P>|t| =0.636) and positive relationship which the researcher rejects the 2nd hypothesis. Firm size was highly significant (P>|t|=000) in Ethiopian insurance companies and positive relationship with the performance of the firm and the researcher accepts the previous hypothesis. It indicates that firm's size increases firm's performance in Ethiopian insurance companies. Tangibility of assets is significant at 5% (P>|t|=0.014) and negative relationship with the performance of Ethiopian insurance companies and the researcher accepts the alternative hypothesis. It means that tangibility does not play a significant rolefor the performance of Ethiopian insurance companies. Liquidity is insignificant (P>|t| =0.206) and negative relationship with performance of the firm and researcher reject the 5th hypothesis. Business risk is highly significant (P>|t|= 0.001) and positive relationship with performance of Ethiopian insurance industry and the researcher accepts the previous hypothesis.

4.4 Discussion ofthe Result

In this section the effect of each variable tested under this study is discussed and analyzed based on the theoretical predictions, prior empirical studies and hypothesis formulated for this study.

Firm leverage

As presented in table 4.8, panel data results for the analysis method of fixed effects model results show a negative and significant impact on profitability of Ethiopian insurance industry with a regression coefficient of -0.1673747, t-statistic -2.21, P-value of 0.030. This result can be interpreted in this way that increase high leverages in Ethiopian insurance companies would lead to low performance. In other words, debt level is over then optimized level and in comparison to advantages of tax shield, incensement of financial distress costs has more

significance. Therefore, this study confirms a negative relationship and then accepts the previous hypothesis that there is a negative relationship between firm leverage and performance of the firm.

Theoretical prediction yields no conclusion for the relationship between leverage and performance. Trade off models argues that profitable firms have great needs to shield income from corporate tax and should borrow more than less than profitable firms. While pecking order models theory suggests an inverse relationship between leverage and profitability of the firm. Firms are assumed to prefer internal financing to external financing in a pecking order frame work. This preference leads firms to use retained earning first as investment funds and move to external financing only when retaining earnings are insufficient. This results has been consistent with Jensen (1986) that if firm leverage acts as a bonding device in terms of forcing managers to commit free cash flows to service debt, then higher debt will lead to lower funds available for managers in profitable investments and then lower performance (Singh &Faircloth 2005).

Also Shegill&sarkaria (1999) suggest that the negative relationship between firm leverage and profitability might be due to the large interest expenses related to debt, stating that if a firm is highly levered and its rate of return on the company's assets is lower than the cost of debt capital, this will lead to lower profitability. However, most of empirical studies confirm the negative relationship between leverage and profitability of the firm such as: Titman & Wessel's (1988),Rajan and Zingales(1999), Wald (1999) etc. in this thesis, researcher use return on assets (measures as income after interest and tax over total assets) as a proxy for profitability of the firm. This negative relationship suggests that the agency conflicts between managers and shareholders are the main reason for such relationship. Possibly Ethiopian insurance firms are employing a more than appropriate level of leverage in their capital structures thus negatively influencing performance.Higher leverage ratios lead to higher debt burden, which might then limit the ability of the firm to take on more risky projects which may also be profitable,Chang, and Aikleng (2004).

Thestudy results are consistent with the cross-sectional study of (Gleason&Mathur, 2000), who confirm a negative relationship for financial and operational performance measures for 14 European countries including the UK, France and Germany. They use total debt, ROA, pre-tax profit margin and growth in sales, justifying this relationship by the agency conflict earlier. The results also support those in the cross-sectional study by Singh & Faircloth (2005) for US manufacturing firms which indicate a strong negative relationship between leverage (total debt to total assets) and level of R&D expenditure, which then inversely affects the performance.

Higher leverage leads to lower long term capital investments and that in turn leads to lower corporate performance.

In addition, researcher results are consistentwith the panel study of (changAikLeng 2004), who finds that gearing ratio (total debt to total capital) has a negative effect on earnings performance (return on equity and dividend payout) for Malaysian listed companies. He states that highly geared firms have statically significant lower financial returns and asserts that debt limits the ability of the firm to take on more risky projects which may be profitable.
Finally, besidesthis in previous chapter confirms the researcher study, in developing countries.

Growth opportunities

As we have seen from fixed effects analysis method this study confirms that growth opportunity has positive impact on performance of Ethiopian insurance companies. The panel fixed effect estimation regression result shows insignificanta positive relationship between growths of sampled Ethiopian insurance companies and their performance ratio with a regression coefficient of 0.0038993, t-statistic of 0.47, and p-value of 0.636.

Trade-off theory considers growth opportunities as an indicator for the firm success; these firms are stronger to face financial distress.Firms with good opportunities have a good reputation in getting funds, easier access to the finance markets and reflected in better performance for these firms.According to the agency theory perspective, firms with high growth opportunities have lower agency costs. These firms might have lower debt ratios due to the fear of debt holders those firms may forgo valuable investment opportunities and expropriate wealth to their benefit, and this outcome would be reflected in lower agency costs (Hutchinson &Gul 2006).

Another reason according to the agency theory is that the growth opportunities enlarge manager's use power. This can be treated as an advantage for the company in that these managers use this power to enlarge the firm's performance, although they increase their own wealth at the same time. Additionally, high-growth firms have easier access to the finance market, and this can be translated in higher performance, because companies are more likely to lend to companies presenting a superior growth rate or having future valuable growth opportunities (Chen, 2004).

Firm size

The result from fixed effect model shows firm size a positive and significant relationship for performance of Ethiopian insurance industry. Therefore, the researcher accepts the previous hypothesis that there is such a relationship. A possible reason for such relationship in this study

for Ethiopian insurance companies, it is very important for a company to be large in order to have superior performance. The panel fixed effect estimation result reveals there is significant positive relationship between size and performance of sampled Ethiopian insurance companies with a regression coefficient of .0886285, t-statistic of4.19, and P-value of 0.000. The significance of firm size on firm performance indicates that large firms can earn higher returns compared to smaller firms, most probably as a result of diversification of investment and economies of scale.

This result is consistent with previous findings such as Tian and Zeitun(2007) and Gleason et.al(2000). Earlier studies supports that firm's size may have an effect on its performance. Large firms enjoy number of capabilities such as economies of scale which may influence financial performance such as Frank andGoyal, (2003). Size is calculated by taking log of total assets and incorporated in the model to the effects of firm size on profitability of the firms. The result shows that greater value of total assets enhances the firm performance and is also evident from earlier researches.

Those who find a positive relationship between firm's size and profitability support the arguments of trade-off theory that size reflects greater diversification, economics of scale production, greater access to new technology and cheaper sources of funds.

These studies includes Orser, Hogarth-Scott, &Riding (2000),who use the number of employees and growth revenues changes for Canadian firms to find that less than one quarter of sampled business reported revenue increases. Also, those who find a positive relationship supporting the suggestion that investors believe that large companies are less risky include (Wing &Yiu 1997), who investigate the effect of size (employment) on performance (technical efficiency) for Chinese firms, and (Tsai &wang 2005), who do similar research for the Taiwan stock exchange using R&D performance, the total assets and employment.

Asset tangibility

Hypothesis (H5-6): There is a relationship between asset tangibility and performance of Ethiopian insurance companies.The panel fixed effect estimation result, in this study, shows a statistical significant negative relationship between tangibility of assets and performance of Ethiopian insurance companies with a regression coefficient of -.3100963, t-statistic-2.52 and p-value of 0.014.This means that a sampled Ethiopian insurance company with high ratio of fixed assets to total asset leads lower performance of the companies, because in Ethiopia lending financial institutions not require fixed assets as collateral to provide debt to those of insurance

companies. The other reasonis the fixed asset of Ethiopian insurance companies not able to generate revenue.

Therefore, the researcher rejects the null previous hypothesis and accepts the alternative hypothesis,because against theoretical expectations, the relationship between firm's asset tangibilityis negative and significant at 1% level. This shows that firms with high ratio of tangibility have a lower performance ratio.However, the negative relationship between firm's asset tangibility and performance is consistent with similar findings of previous researchersOsuji&Odita, A (2012). According to the researcher knowledge there is no extensive literature that investigates the relationship between firm's asset tangibility and profitability of the firm. Another possible reason is that the majority Ethiopian insurance companies which are not considered a capital intensive, i.e., those companies who they not rely mainly on their fixed assets to make their products and services.

Firm Liquidity

Hypothesis (H5-6): There is a relationship between liquidity and performance of Ethiopian insurance companies.

A result from fixed effects models shows a negative and insignificant relationship between firm liquidity and performance of Ethiopian insurance industries. Specifically, fixed effect estimation with a coefficient of -0.0160876, t- statistic -1.28 and p-value of 0.206 confirmed a negative relationship between liquidity and performance ratio. The coefficient indicates that an increasing liquidity leads to lower performance of in Ethiopian insurance companies. However,pecking order theory suggesting that the more liquid firm would use external financing due to their ability of paying back liabilities while trade of theory suggesting that high liquidity position for the firm indicates that this firm is strong enough to face any short or long-term financial problems and this strong firm can perform better than a weak firm which has weak liquidity position in its financial statements. From this argument we understand that Ethiopian insurance companies not depend on short term liabilities, as result the sampled Ethiopian insurance companies no need of have excess liquidity.Therefore, the researcher rejects the hypothesis, because it against the prediction theory. This study is consistent with other researchers such as Ali .A &Zahida.B(2013).

Business risk

. The panel fixed effect estimation result, in this study, shows a statistical significant positive relationship between business risk and performance ratio with a regression coefficient 0.3995292,t-statistic-3.58 and p-value of 0.001, which statistical significant positive on performance of Ethiopian insurance companies.

The reason for such relationship in the Ethiopian insurance companies is due the theoretical prediction of the agency theory; the required rate return from investors should be suitable to their risk in the firm. Shareholders will require high return in order to hold the risk related to the bankruptcy and financial distress since the debt holders have the priority in the case of bankruptcy. Also, the debt holders will require such return to hold the risk of agency conflicts with shareholders and management.Among others some of them, (Ser-Haung and Tylor 1992) for the UK stock market report a positive relationship, (loudon 2006) for 15 markets, comprising a mix of developed and emerging markets, (Assaf, 2005) for the Canadian stock exchange and besides of this the previous chapter confirms their relationship.

Table 4.9 Results summary of relationship between capital structure determinants as independent variable while performance (ROA) of Ethiopian insurance companies as dependent variable.

Variable	Research results Panel analysis	hypothesis	Hypothesis prediction	Approved
Firm leverage	✓	H-1	-	YES
Growth opportunities	✓	H-2	+	NO
Firm size	✓	H-3	+	YES
Business risk	✓	H-4	+	YES
Tangibility asset	✓	H-5	+	YES(alternative)
liquidity	✓	H-6	+	NO

The result provides evidence that the four variables i.e. leverage, size, liquidity and business risk are influence the performance of the firm measure ROA.The result proves that high level of firm leverage leads to lower ROA. The result supports the intention that because of agency conflict companies over-leveraged themselves, thus affecting their performance negatively.Also the result is in line with the argument of pecking order theory that performance of Ethiopian insurance companies should finance their investment opportunities with retained earnings. Therefore, a negative relationship could be developed between leverage level and performance measure. Also the results showing the firm size has a positive significant on performance of

Ethiopian insurance companies. Pensrose(1959) argue that larger firms benefit from economies of scale, which can also have a positive impact on performance. Tangibility of fixed assets in this study, against the theoretical expectation, the results indicates a negative and significant relationship between asset tangibility and performance of the firm. This implication that the sampled of Ethiopian insurance companies were not able to utilize the fixed asset compositions of their total asset wisely to impact positively on their profitability. The relationship between business risk and performance (ROA) is significant and positive. The study also confirms this result. The reason for such relationship in the Ethiopian insurance companies is due the theoretical prediction of the agency theory; the required rate return from investors should be suitable to their risk in the firm. On the other hand, the study could not provide evidence that growthopportunities and liquidity of the firms are determinants of performance in the proxies of Return on asset (ROA).

Chapter Five

5.Conclusion and Recommendation

This chapter concludes thesis by presenting the major findings as well as providing a discussion and empirical conclusions drawn from the research study. Finally this section finishes by providing recommendation for future research in this area.

5.1Conclusion

Capital structure has been a much debated topic in the finance field since the Modigliani& Miller proposition in 1958. Capital structure theories, such as the pecking order and the trade-off theory emerged into the finance field and many have tried to analyze the implications of these theories for firms in the market. Capital structure decision have been the most significant decisions to be taken any business organization for maximization of shareholders wealth and sustained growth.The objective of this study was limited to the impact of capital structure on the performance in the context of Ethiopian insurance industries. This paper has applied the panel data regressions for nine insurance companies in Ethiopia during the period 2004 to 2013. All insurance companies included in the study if they had the specified period of time, audited financial statements of ten years. This thesis examined empirically the implication of theory of capital structure in Ethiopian insurance companies. The results of regression analysis disclose that firm leverage, growth opportunities, size,business risk, tangibility of assets and liquidity as independent variable while the profitability the firm (ROA)is dependent variable. The finding of the research is support pecking order theory, trade-off theory and agency cost theory. The study shows that the expected sign for is confirmed by actual relation for the model under the study by performance of the firm (ROA) measures in regression model result.

- **Firm leverage** for the sample study effects negatively and statistically significant at 5% on firm performance(ROA) of Ethiopian insurance companies. Therefore, this study confirms a negative relationship between firm leverage and performance of the firm. This result can be interpreted in this way that high leverage companies would have less performance. In other words, debt level is over than optimized level and in comparison to tax shield, incensement of financial distress costs has more significance. There are other reason may be Informational asymmetry and high costs of external resources and lack efficient financial market of the market.

  The outcome provides evidence in support pecking order theory. Pecking order theory states that higher profitability should enable the company to retain more earnings which

is the preferable source of funding, and as such, the amount of leverage needed by the company should decrease. This negative relationship indicates that the Ethiopian insurance companies do not use debt to maximize their performance.

- **Growth opportunities**: The regression result shows positive relationship between a firm's growth opportunities and performance of the firm. But, insignificant. Although the expected sign positive is confirmed, the hypothesis is rejected on the practical of its non-significance. The positive relationship might be one of the most alternatives for the firm, because the investors and shareholders, investing in profitable projects.
- **Firm size:** The result from fixed effect model shows firm size a positive and highly significant relationship for performance of Ethiopian insurance industry. The significance of firm size on performance indicates the large firms can earn high return compared to smaller firms, most likely as results of diversification of investment and economic scale. Therefore, it is very important for a company to be large in order to have superior performance. This study supported by trade-off theory, it stated that size reflects greater diversification, economics of scale production, greater access to new technology and cheaper sources of funds.
- **Tangibility assets:** the study against the theoretical expectation, because the results shows a negative and significant relationship between assets tangibility and performance (ROA) of the firm. This implication that the sampled of Ethiopian insurance companies were not able to utilizethe fixed asset composition of their total assets sensiblyto impact positively on their performance.
- **Liquidity:**A result from fixed effects models shows against the theoretical expectation, because a negative and insignificant relationship between firm liquidity and performance of Ethiopian insurance industries. Therefore, the researcher rejects the hypothesis due to insignificant and inverse relationship.
- **Business risk:** This study confirms panel data results for the analysis method of fixed effects model results show a positive and significant impact on performance of Ethiopian insurance industry. Therefore, the researcher accepts the previous hypothesis and Ethiopian insurance industries may reduce their risk by increasing and diversified its operation. This study is supported by agency theory; it states that the required rate return from investors should be suitable to their risk in their risk in the firm.

5.2Recommendation

According to the above results which are confirmed by this study and discussed in detail the previous chapters, the following recommendation can be stated.

In addition of this study, most empirical studies on capital structure they reveal a negative correlation between leverage and performance of the firm. Possibly sampled Ethiopian insurance industry is employing a more than appropriate level of debt in their capital structures thus negatively influencing their performance. This may due to high costs of external resources, financial distress cost more thantax shield.

- The result proves that with the increase in leverage negatively affects the performance Ethiopian insurance industry. Therefore, the researcher recommends that managers shall not use excessive amount of leverage in their capital structure, they must try to finance their projects with retained earnings and use leverage as a last option. Managers must work to achieve the optimal capital structure level to maximize the firm's performance and try to maintain it as much as possible.
- Firm leverage negative relationship suggests that more efforts should be taken regarding legislative rules and policies to help firms in reducing the dependence on debt in their capital structure.

The panel fixed effect estimation result, size is a positive significant impact on performance of sampled Ethiopian insurance industry.

- The positive relationship between firm size and performance of the firm suggests that firm size is positively related to the borrowing capacity because potential bankruptcy costs make up a smaller portion for large firms.
- The positive relationship between business risk and profitability the firm suggests that Ethiopian insurance industries may reduce their risk by increasing and diversified its operation.
- In generally, the variable that significant direct relationship between the impacts of capital structure on performance of the firm, the managers should devote their time and efforts on those variables in order to minimize the weighted average cost of capital and consequently maximize the welfare of shareholders.

5.3 Future research directions

- There is no extensive literature in Ethiopia regarding capital structure and financial performance. Future studies can use other indicators for these determinants and re-investigates their relationships.
- The study has laid some ground work to explore the impact of capital structure on performance of Ethiopian insurance industries. Further work is required to develop new hypotheses and design new variables to reflect the firm specific factors to influence on firm performance related with theory of capital structure.

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Appendix

Appendix:1 for Pearson correlation

	roa	lv	gr	size	ta	lqbr
roa	1.0000					
lv	-0.2033	1.0000				
gr	0.0012	-0.0205	1.0000			
size	0.2467	-0.0889	-0.0004	1.0000		
ta	-0.1616	0.0428	0.1003	-0.1428	1.0000	
lq	-0.1093	0.2134	0.1486	-0.4047	0.0125	1.0000
br	0.3373	-0.1060	-0.0361	-0.3312	-0.0939	0.2550	1.0000

Appendix:2Unit root test

Levin-Lin-Chu unit-root test for leverage

Ho: Panels contain unit roots — Number of panels = 9
Ha: Panels are stationary — Number of periods = 10
ADF regressions: 1 lag
LR variance: Bartlett kernel, 6.00 lags average (chosen by LLC)

Statistic	p-value
Unadjusted t	-12.6782	
Adjusted t*	-11.8400	0.0000

Levin-Lin-Chu unit-root test for grow

Ho: Panels contain unit roots — Number of panels = 9
Ha: Panels are stationary — Number of periods = 10
ADF regressions: 1 lag
LR variance: Bartlett kernel, 6.00 lags average (chosen by LLC)

Statistic	p-value
Unadjusted t	-9.0820	
Adjusted t*	-4.7569	0.0000

Levin-Lin-Chu unit-root test for size

Ho: Panels contain unit roots — Number of panels = 9
Ha: Panels are stationary — Number of periods = 10

ADF regressions: 1 lag
LR variance: Bartlett kernel, 6.00 lags average (chosen by LLC)

Statistic		p-value
Unadjusted t	-7.8531	
Adjusted t*	-7.8272	0.0000

Levin-Lin-Chu unit-root test for tangibility asset

Ho: Panels contain unit roots — Number of panels = 9
Ha: Panels are stationary — Number of periods = 10

ADF regressions: 1 lag
LR variance: Bartlett kernel, 6.00 lags average (chosen by LLC)

Statistic		p-value
Unadjusted t	-3.3848	
Adjusted t*	-2.4443	0.0073

Levin-Lin-Chu unit-root test for liquidity

Ho: Panels contain unit roots — Number of panels = 9
Ha: Panels are stationary — Number of periods = 10

ADF regressions: 1 lag
LR variance: Bartlett kernel, 6.00 lags average (chosen by LLC)

Statistic		p-value
Unadjusted t	-7.3340	
Adjusted t*	-4.5816	0.0000

Levin-Lin-Chu unit-root test for business risk

Ho: Panels contain unit roots — Number of panels = 9
Ha: Panels are stationary — Number of periods = 10

ADF regressions: 1 lag
LR variance: Bartlett kernel, 6.00 lags average (chosen by LLC)

Statistic		p-value
Unadjusted t	-6.8647	
Adjusted t*	-6.1576	0.0000

Appendix:3 Normality test

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
roa	90	0.47682	39.573	8.112	0.00000

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
lv	90	0.95974	3.045	2.456	0.00702

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
gr	90	0.26558	55.551	8.860	0.00000

.Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
size	90	0.99001	0.755	-0.619	0.73201

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
ta	90	0.90230	7.390	4.411	0.00001

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
lq	90	0.74102	19.589	6.561	0.00000

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
br	90	0.58753	31.199	7.588	0.0000

Appendix:4Heteroskedasticity test table

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROA

chi2 (1) = 0.36

Prob>chi2 = 0.5489

Appendix:5Hausman test

---- Coefficients ----

(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed	random	Difference	S.E.
lv	-.1673747	-.0884367	-.078938	.0334373
gr	.0038993	.002613	.0012863	.0008566
size	.0886285	.0464443	.0421841	.0157781
ta	-.3100963	-.1414094	-.1686869	.0288326
lq	-.0160876	-.0054207	-.0106668	.0094598
br	.3995292	.3139315	.0855977	.0238584

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg
Test: Ho: difference in coefficients not systematic

chi2 (6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 62.20
Prob>chi2 = 0.0000

(V_b-V_B is not positive definite)

Appendix: 6 fixed effects regression analysis

Fixed-effects (within) regression *Number of Obs* = *90*
Group variable: company *Number of groups* = *9*
R-sq: within = 0.3720 *Obs per group: min* = *10*
Between = 0.3310 *avg* = *10.0*
Overall = 0.2383 *max* = *10*
Date: 08 /05/14 Time: 9:25
Sample*2004 to 2010* *F (6, 75)* = *7.40*
corr(u_i, Xb) = -0.7622 *Prob> F* = *0.0000*

roa	*Coef.*	*Std. Err.*	*tP>|t|*	*[95% Conf. Interval]*	
lv	*-.1673747*	*.0758574*	*-2.21*	*0.030**-.3184903*	*-.016259*
gr	*.0038993*	*.0082162*	*0.47*	*0.636*	*-.0124683*	*.0202669*
Size	*.0886285*	*.0211508*	*4.19*	*0.000*.0464938*	*.1307631*
ta	*-.3100963*	*.1231772*	*-2.52*	*0.014*-.5554778*	*-.0647148*
lq	*-.0160876*	*.0126096*	*-1.28*	*0.206*	*-.0412072*	*.0090321*
br	*.3995292*	*.0728456*	*5.48*	*0.000** .2544132*	*.5446451*
_cons	*-1.494222*	*.4170297*	*-3.58*	*0.001** -2.324988*	*-.6634563*

sigma_u | *.09529538*
sigma_e | *.0989344*
rho | *.48127097* *(fraction of variance due to u_i)*

F test that all u_i=0: *F(8, 75) =* *3.17* *Prob> F = 0.0038*
* Significant at 1% level, ** significant at 5% level.

Appendix:7Summaries of raw data

Year	company	ROA	Lev	Grow	Size	Tang	Lq	Br
2004	EIC	0.055172	0.418847	0.071974	20.43477	0.096666	1.845086	0.129119
2005	EIC	0.061455	0.344515	0.144305	20.50427	0.08443	2.31583	0.12045
2006	EIC	0.729491	0.347666	0.037041	20.63907	0.026291	2.370981	1.48693
2007	EIC	0.056164	0.317008	0.130484	20.67544	0.065693	2.539502	0.1015
2008	EIC	0.058505	0.295798	-0.00088	20.79808	0.058636	2.797497	0.089785
2009	EIC	0.066084	0.663019	0.295416	20.79721	0.062935	2.96597	0.089864
2010	EIC	0.071875	0.264375	0.181752	21.05604	0.055905	3.428795	0.069371
2011	EIC	0.068035	0.267901	0.375567	21.22304	0.068426	3.238553	0.058701
2012	EIC	0.162279	0.716927	0.191439	20.75213	0.101416	1.872566	0.094008
2013	EIC	0.11937	0.696444	-0.98007	20.92729	0.116951	1.943235	0.078903
2004	NIC	0.024431	0.649146	0.04643	17.012	0.298791	7.764578	0.428671
2005	NIC	-0.04715	0.709919	0.232029	17.05739	0.295979	11.24678	0.409651
2006	NIC	0.058873	0.683433	0.257266	17.26605	0.236809	5.682308	0.332501
2007	NIC	0.063672	0.68159	0.107081	17.49499	0.203464	6.884765	0.264464
2008	NIC	0.046234	0.66624	0.165463	17.59671	0.182881	7.013198	0.238884
2009	NIC	0.038296	0.680229	0.232783	17.74983	0.158847	7.700223	0.204969
2010	NIC	0.047476	0.702859	0.372641	17.95911	0.126754	5.871897	0.166265
2011	NIC	0.002835	0.786909	0.670072	18.27584	0.089755	6.309078	0.121128
2012	NIC	0.124385	0.751103	0.359217	18.78871	0.064109	4.620953	0.072529
2013	NIC	0.110723	0.691901	0.539067	19.09562	0.049813	6.236347	0.053361

2004	AIC	0.048401	0.781194	0.031627	18.0375	0.148498	2.661858	0.38784
2005	AIC	0.038543	0.270019	-0.09576	18.35225	0.108399	2.661953	0.283112
2006	AIC	0.048074	0.261778	0.718073	18.5551	0.102243	2.833701	0.231133
2007	AIC	0.921629	0.273131	0.197201	18.7928	0.00209	2.556024	0.182236
2008	AIC	0.105356	0.852025	0.090121	18.93325	0.000258	1.998089	0.158356
2009	AIC	0.094556	0.422953	0.212194	19.11632	0.350801	1.662069	0.131865
2010	AIC	0.168123	0.703885	0.513447	19.30086	0.358643	1.69691	0.109644
2011	AIC	0.070907	0.44378	0.313799	19.70792	0.370406	0.870318	0.072979
2012	AIC	0.062915	0.543746	1.171591	20.05811	0.2084	1.599226	0.051418
2013	AIC	0.172906	0.879584	0.79398	20.31464	0.173538	1.742138	0.039784
2004	NIC	0.014239	0.581791	0.174771	18.73486	0.039021	2.749046	0.126791
2005	NIC	0.039079	0.623192	0.178886	18.89593	0.05003	1.400324	0.107928
2006	NIC	0.034122	0.69452	0.069375	19.0605	0.070753	1.822545	0.091551
2007	NIC	0.021518	0.717445	0.004606	19.12757	0.084215	1.86905	0.085612
2008	NIC	-0.01456	0.616014	-0.03508	19.11989	0.13119	5.138278	0.086272
2009	NIC	0.021558	0.508891	0.247879	19.09646	0.126823	1.314076	0.088317
2010	NIC	0.126543	0.312548	0.184728	19.3179	0.102828	2.191218	0.070774
2011	NIC	0.079437	0.493922	0.366926	19.48742	0.089571	2.321737	0.059739
2012	NIC	0.084127	0.631551	0.174359	19.79998	0.118534	2.641728	0.043703
2013	NIC	0.089445	0.605425	-0.77183	19.9607	0.137136	1.003925	0.037214
2004	AFIC	0.010658	0.615462	0.042412	18.48303	0.057843	2.649196	0.102674

2005	AFIC	-0.00361	0.645967	0.497386	18.52457	0.087977	2.13473	0.098497
2006	AFIC	0.069724	0.672574	0.122271	18.92829	0.048572	1.302422	0.065779
2007	AFIC	0.019081	0.701809	0.328337	19.04364	0.03659	1.323906	0.058613
2008	AFIC	0.034645	0.749578	0.059154	19.32757	0.044266	1.329629	0.044125
2009	AFIC	0.043351	0.719927	0.399195	19.38504	0.103542	1.497312	0.04166
2010	AFIC	0.051711	0.737528	0.295557	19.72094	0.161145	1.035686	0.029775
2011	AFIC	0.040124	0.752484	0.177894	19.97988	0.190278	1.858457	0.022982
2012	AFIC	0.033622	0.737379	0.685629	20.14361	0.273761	1.566367	0.019511
2013	AFIC	0.003791	0.689781	0.353344	20.1569	0.361457	1.202046	0.019253
2004	NYIC	0.056246	0.37429	-0.04135	18.55048	0.260383	1.615394	0.196153
2005	NYIC	0.060204	0.312288	0.150539	18.50826	0.280177	1.819646	0.204613
2006	NYIC	0.07941	0.340591	0.058528	18.64849	0.271937	1.793605	0.177841
2007	NYIC	0.075827	0.369726	0.134511	18.70537	0.246517	1.735438	0.168008
2008	NYIC	0.055693	0.381793	0.105996	18.83157	0.227776	1.663884	0.148088
2009	NYIC	0.107661	0.02007	0.272878	18.93231	0.266672	1.469097	0.133896
2010	NYIC	0.089434	0.373486	0.177143	19.17359	0.212071	1.696439	0.105191
2011	NYIC	0.112109	0.501958	13.16158	19.3295	0.223914	5.00965	0.090006
2012	NYIC	0.118279	0.611525	-0.8655	19.71514	0.160035	2.640578	0.061205
2013	NYIC	0.120178	0.613605	-0.9748	19.98102	0.157008	1.311662	0.046916
2004	GIC	0.034625	0.419641	0.577519	16.30014	0.036556	4.300361	0.463156
2005	GIC	0.031651	0.580818	0.326478	16.75599	0.045134	3.771457	0.293598

2006	GIC	0.034064	0.547959	0.128337	17.03852	0.037233	4.255008	0.221336
2007	GIC	0.043447	0.436348	0.060624	17.15926	0.044499	2.507791	0.196161
2008	GIC	0.006668	0.407258	0.091015	17.60576	0.041384	1.234059	0.125517
2009	GIC	0.036544	0.902047	0.123002	17.80441	0.368079	1.249265	0.102903
2010	GIC	0.058372	0.449545	0.197476	17.92265	0.339998	1.149461	0.091428
2011	GIC	0.043224	0.553922	0.303469	17.60145	0.465749	1.485895	0.126059
2012	GIC	0.014486	0.417233	1.161872	18.3545	0.249916	1.542743	0.059365
2013	GIC	0.112964	0.455195	-0.60982	18.63745	0.174445	1.662257	0.044735
2004	UIC	-0.07393	0.746452	0.056205	17.69632	0.036551	1.792895	0.481225
2005	UIC	-0.021	0.771586	0.48083	17.63847	0.036354	1.661518	0.509883
2006	UIC	0.099155	0.440357	0.243265	18.03107	0.141433	2.116273	0.344322
2007	UIC	0.11509	0.498586	0.279739	18.24881	0.145287	1.957395	0.27695
2008	UIC	0.124368	0.36114	0.076644	18.93034	0.09321	1.868295	0.140094
2009	UIC	0.070289	0.420274	0.342094	19.10291	0.154648	1.677984	0.117888
2010	UIC	0.166171	0.360132	0.225034	19.30189	0.11573	2.040636	0.096618
2011	UIC	0.06977	0.435751	1.131095	19.50266	0.063897	2.151099	0.079043
2012	UIC	0.08022	0.360994	0.20878	19.82316	0.052402	2.081432	0.057369
2013	UIC	0.109657	0.370187	-0.92323	20.01277	0.076439	2.120729	0.04746
2004	NBIC	-0.10886	0.191615	0.636466	17.44583	0.185299	4.084859	0.490866
2005	NBIC	0.091934	0.300052	0.568698	17.93837	0.125775	2.148336	0.299955
2006	NBIC	0.035104	0.268366	0.019345	18.10344	0.073126	2.465895	0.254311

2007	NBIC	0.072219	0.297095	0.385962	18.40777	0.066034	2.348986	0.187584
2008	NBIC	0.08785	0.294553	0.511213	18.73417	0.144551	0.103773	0.135345
2009	NBIC	0.083585	0.378733	0.290925	19.14708	0.112116	1.861156	0.089561
2010	NBIC	0.078998	0.393868	0.218659	19.40244	0.110001	1.886523	0.069377
2011	NBIC	0.072337	0.403611	0.46088	19.60019	0.113784	1.852733	0.056929
2012	NBIC	0.066458	0.440742	0.149186	19.97923	0.083048	1.781246	0.038969
2013	NBIC	0.088663	0.433312	1	20.11828	0.073251	1.828396	0.03391

Abbreviation of Ethiopian insurance companies

1. EIC- Ethiopian Insurance Corporation
2. NIC- National Insurance Corporation
3. AIC- Awash Insurance Corporation
4. NIC- Nile Insurance Corporation
5. AFIC-African Insurance Corporation
6. NYIC-Nyala Insurance Corporation
7. GIC- Global Insurance Corporation
8. UIC- united Insurance Corporation
9. NBIC- Nib insurance companies